New Directions in Telecommunications Policy

Volume One

Regulatory Policy: Telephony and Mass Media

Edited by Paula R. Newberg

New Directions in Telecommunications Policy

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Contents

Preface / vii

Introduction / Paula R. Newberg / 1

Telephony

Telecommunications Regulation in the 1990s / Roger G. Noll / 11

Fragmentation of the Telephone Network / Robert W. Crandall / 49

Network Pluralism and Regulatory Pluralism / Eli M. Noam / 66

International Telecommunications Regulation / Leland L. Johnson / 92

Mass Media

Broadcasting / Henry Geller / 125

Broadcasting and the First Amendment / Matthew L. Spitzer / 155

Public Broadcasting and Federal Policy / John Carey / 192

Cable Television: Promoting a Competitive Industry Structure / Harry M. Shooshan III / 222

Use and Management of the Spectrum Resource / Charles L. Jackson / 247

Politics and Process

The Communications Policy Process / Howard J. Symons / 275

Congress and Telecommunications Policymaking / John A. Ferejohn and Charles R. Shipan / 301

Reforming the Federal Telecommunications Policy Process / Henry Geller / 315

The Public Interest and Telecommunications / Anthony Smith / 334

Notes / 359
Index / 401
Contributors / 413

Preface

The Markle Foundation embarked on its Communications Policy Project in late 1987 with the hope that timely writings on federal telecommunications policy would draw attention to possibilities for reform in domestic and international telecommunications policy in the coming decade. The essays included in these two volumes represent the contributions of many of the project's participants during the past year.

The Communications Policy Project has been a collaborative venture, and I am grateful to all contributors and participants for their interest, enthusiasm, and time-consuming efforts. Lloyd Morrisett and the Foundation's staff provided funding, infrastructure, and a home for the project, and Paul Iannicelli supervised the flow of paper, computer disks, telephone calls, and people across several continents and oceans. In addition to our authors, many commentators read essay drafts and participated in seminars and meetings: Stanley Besen, Stuart Brotman, Robert Bruce, Barry Carter, Ronald Cass, Tom Cohen, Donna Demac, Gerald Faulhaber, Kenneth Flamm, Robert Gellman, Thomas Krattenmaker, Jeffrey Krauss, Frank Lloyd, Michael Marcus, Nicholas Miller, Janet Morgan, Hugh O'Neill, Bruce Owen, J. David Patterson, Ronald Plesser, Marc Porat, Gregory Staple, Christopher Sterling, and Frederick Weingarten. Roger Noll, Robert Pepper and Carolyn Sachs helped conceive the project and contributed enormously to its progress, as did Richard Rowson of Duke University Press. Throughout, Martin Elton and Henry Geller were patient and ever-constructive advisers to the project and its director.

Paula R. Newberg
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New York City
November 1988

Introduction

Paula R. Newberg

The decade of the 1980s has witnessed enormous change in the world of telecommunications. Satellite communications, fiber optics, personal computing, highly sophisticated electronic information systems, and other new technologies have all exploded in their importance and have helped to internationalize communications industries, markets, and audiences. At the same time, major antitrust actions by the American government have restructured the telecommunications industry, providing groundwork for new organizational arrangements among old and new technologies alike. During this same decade, economic regulation has been dramatically revised in the United States, Japan, Western Europe (most recently with an eye toward economic integration in 1992), and a number of emerging Third World capitalist economies. Reacting to the costs and policies of detailed federal regulation, macroeconomic policy has moved away from traditional doctrinal regulation, even among those economists and political analysts who continue to favor some of its principles. Limits on federal regulation have devolved many responsibilities to local and state governments. Although the long-range practical effects of all these conversions have yet to be fully realized and understood, the context of telecommunications policy has been indelibly colored by the scope and nature of these changes.

Concurrently, many governments, including the United States, have renewed their interest in competition and competitiveness on the one hand and, on the other hand, in harmonizing policy objectives in a wide array of related industrial and financial areas—sometimes under the aegis of industrial policy, sometimes in the name of simple efficiency. Concerns with global competition are teamed with the practical requirements of internationalized industries and occasional ideological interests of interdependence. These dilemmas help to pose fundamental questions of political and economic organization and have prompted searching reviews of industrial priorities, employment arrangements, and long-range planning. Social welfare and economic equity policies, both domestic and international, are thus crucially and directly affected by changes in telecommunications and telecommunications policies.

As new technologies and circumstances have helped to erase some political borders, economic exigency has underscored the importance of national boundaries for policymakers. Telecommunications policy therefore meets at the cusp of these policy determinations, a place of tremendous opportunity and, of course, some associated difficulties. The challenges of the next decade—politically, economically, socially, and technologically—will be to comprehend the effects of recent policies, interpret the depth of new technologies, and construct useful and plausible possibilities for the future.

The essays included in these volumes each examine selected, important aspects of telecommunications policy. The first volume combines writings on telephony and mass media regulation with considerations of policy process reform. The second volume, building on explorations in traditional regulatory fields, explores the implications of new telecommunications technology in information policy and economic policy. Together they help to emphasize a set of coherent themes in policy for the near and the long terms. These writings are varied in political and economic perspective, methodology, policy assumptions, and recommendations. They share a common interest in constructing telecommunications policies to strengthen society and in some cases find agreement in policy proposals even when their initial objectives seem at variance.

Primary among the concerns articulated in these volumes is an issue significant for all public policy in this field: how can we and how should we define the public interest for the purposes of telecommunications policy? Who is the public, and how can it best be served? In many ways, this single problem orients public policy debate in a range of areas touched by telecommunications. At times, public policy identifies public interest with national interest. The telecommunications industry logically calls for policy to encourage industrial growth and to take account of the diverse interests of research communities, manufacturers, and businessmen. The history of telecommunications development in the United States, however, points to as many different communications policies as there are macroeconomic policies, with the changing fortunes of direct governmental intervention as variable as the national mood.

As part of the national infrastructure, telecommunications is more than just one set of industries subject to regulation, but is integral to local and national politics, society and economy. Nonetheless, some of these industries are regulated as common carriers—underscoring a traditional view of public responsibility for national infrastructure—while newer entrants like cable broadcasting, practically speaking, are not. As several of the following essays note, this inconsistency may have reached the end of its useful life, and a fresh, integrated approach to satisfying the public interest—whether for purposes of economic efficiency or to reinforce First Amendment values—may be more appropriate for the next century. Moreover, the world of telecommunications is increasingly international. Not only are broadcast and satellite signals oblivious to national borders, but the manufacture of each component of telecommunications equipment is part of a vast network of international trade, standards, and development. Just as the national interest has become more difficult to define and isolate, so telecommunications policy has become more complex, speaking to a large array of intersecting policies and, literally, audiences. Intergovernmental agencies have acted to set standards and multilateral agreements have provided limited order for increasingly elaborate telecommunications arrangements, but their efforts require far more support and, ultimately, vision.

To whom should policy be addressed? Federal telecommunications policies must consider more than one broad notion of national interest. Should public policy be formulated primarily to protect consumers and, if so, which ones and for what purposes or against what potential harms? Are the interests of businesses and individuals compatible, and can they be served by similar policy initiatives? Are deregulatory policies instituted in the last decade appropriate to meet the needs of a changing American population? Should special measures be taken within the telecommunications arena to serve special groups, such as children or minorities, or to encourage special initiatives, such as education through public broadcasting? Answers to these questions, different as they are in this volume and elsewhere, are critical to future determinations in policy areas as varied as fiber optics research and broadband networks, subsidies for rural telephone subscribers, and the structure of federal funding for public broadcasting.

Closely related to the problem of identifying the public and its interests is the question of who is to represent those interests. Again, this question crosses political and technological borders. At first glance, American national interests in trade, research, and international telecommunications would seem most clearly voiced by the federal government, expressing a unified position on telecommunications issues. For some observers, a seemingly univocal national policy, comparable to the single telecommunications administration of other countries, would simplify global negotiations for trade and prove advantageous for consumers and service-providers alike.

However, this view gravely misstates the variegated texture of political and economic responsibilities in the United States, and ever-changing philosophies and ideologies assessing such obligations. Recent history has helped to highlight tensions—sometimes creative, sometimes complicating—inherent in the American federal system: rights of state governments to regulate public utilities versus efficiencies of national policies, overlapping interests of state trade enhancement and federal foreign economic policies, competition among states to provide regulatory environments conducive not only to the telecommunications infrastructure but also to the jobs and services that accompany these businesses. Who speaks for individual consumers, business consumers, investors, and the national economy is as knotty a problem as who speaks for citizens in the political processes which determine these policies.

Complexity embraces far more than the layered texture of American government. Some complexity is intentional, like the many vehicles to express individual opinion in politics or elegant economic and technological architectures; some is less so, including difficulties imposed by market deficiencies. The crossroads between intention and result, if left untended, can be untidy, costly, and, indeed, more complex than perhaps we need. The role of public policy is to help design a clear path through this disarray.

Citizen voice must play an extremely important role in such policy deliberations. The communications world has grown exponentially in the last decade. Technology is now commonplace that was virtually unknown a few years ago; rapid developments have put within reach choices in information services, telephony and mass media that were hitherto inaccessible. The late twentieth century is proving to be a period when technological change sometimes seems faster than its identifiable purposes and the logic of the polities which encompass them. If change seems a constant, however, so too are citizen rights. As many essays in these volumes make clear (each in their own ways), the fundamental rights of free expression provide a foundation for discussions of regulation and deregulation, for media freedoms and constraints, and for the parameters of both technological and political change. Indeed, while complexity may be the byword of contemporary telecommunications, the equation of public interest and free expression rights—and the political implications of the many ways to formulate this calculus—have become the guideposts for its coherence.

Thus, the relationships between policy assumptions, the contexts in which they are molded and articulated, and the goals they pursue are at once intricate and tangled. The best public policies join interests and public goals consistent with political society. (Of course, this is formidable in a policy world that is progressively more international.) For telecommunications policy, variant readings of those assumptions, and of technique and prospect, provide both confusion and possibility. Part of telecommunications policy must be to harness its infinity for public good; part must allow technology to explore its own limits. With the goal of providing basic universal telecommunications service almost accomplished in the United States, for example, the goal of interconnection among the many arenas of telecommunications development is gradually taking its place. It is an open-ended pursuit but incorporates familiar quests for accessibility and affordability which are as much part of the national debate about social welfare as they are about telecommunications. Hence the need for constant discussions and revaluations about the propriety, function, and terms of regulation.

This volume takes as its subject the three pillars of telecommunications regulation—technology, markets, and the policy process. In the general areas of telephony, mass media, and policymaking, it investigates the nature of the regulatory enterprise, the unsettling technological change that traditional regulation has encountered, and policy problems posed by market deficiencies. It examines the impact of telecommunications technologies on national economic behavior and the roles of local and national governments in directing the economy and polity.

The essays included here on telephony regulation explore several intersecting problems: changes in the structure and functioning of telephony industries in the wake of the AT&T divestiture and continuing industrial changes; interactions between state and national governments concerning the province of regulatory responsibilities; the parallel growths of public and private networks and the policy dilemmas inherent in both; and the nature of price structure, regulatory patterns and international telecommunications. While each essay takes telephony as its focus, the regulatory lessons they draw are wider than this one field. The goals we set for regulation will have tangible results in the way telephony develops. At the same time, the driving economic force of telecommunications technology and the gradual convergence of technologies, including fiber optics and satellite transmission, is forcing critical revisions in regulatory theory and practice.

Such changes are even more palpable in mass media. Where three networks once dominated television broadcast, now dozens of new choices confront the American consumer. Cable, video cassette recorders, and direct broadcast satellites not only bring the media closer to telephony—and thus raise serious questions about the future of common carrier regulation and its alternatives—but potentially alter the nature of broadcasting itself. Radio deregulation in the 1970s has been followed by television deregulation in the 1980s; nonetheless, the problems of the market have not been fully solved. As the following essays make clear, the success of mass media in the United States will depend in part on the breadth and depth of future regulation.

These essays also underscore spirited debates in American society about open expression, economic freedoms, and national responsibilities. First Amendment liberties, a foundation of American politics, have been interpreted quite differently among industries, citizen groups, economists, and politicians. Regulation is neither the best proponent nor the worst enemy of free speech; the form regulation takes, however, does help to determine the vitality of markets and suppliers, or put another way, programmers and viewers. Embedded in these controversies are arguments about government's role in providing programming and technology—for example, in the future of public telecommunications in an era when broadcast stations themselves may become obsolete, but when national commitments to education, literacy, and public culture require firm attention.

At base, the substance of these policy discussions also concerns the way public policy is decided. New telecommunications technologies can be decentralizing: with cassettes, national broadcasting diminishes in importance; with greater consumer choice, the significance of large telephone companies seems to lessen; as competition among technologies increases, costs may decrease. Concurrently, the health of national industries is crucial to the continued development and deployment of new research and development.

For policymakers—city administrators who oversee cable franchise licenses, state public utilities commissioners with discretion over telephony pricing, congressional representatives with jurisdiction over federal agencies—the policy process itself must be open to all parties to fashion consensus. The "marketplace of ideas," cornerstone of First Amendment broadcasting policy, must also characterize the policy process. Yet, the myriad of policy fora is itself creating complexity in telecommunications. A balance between executive coordination, legislative contribution, and judicial oversight must be struck anew as technology continues apace.

In these technologically dynamic fields, change is inevitable—with a cadence and course set in conjunction with public policies. Creating policy which can support inventors and investors alike, provide suitable underpinning for future development, and serve society by retaining choice in real terms is a serious responsibility and exciting challenge for political policy in coming years.

TELEPHONY

Regulation
Network Fragmentation
Pluralism and Federalism
International Telecommunications

Telecommunications Regulation in the 1990s

Roger G. Noll

To most Americans, recent events in telecommunications policy must seem especially confusing. The United States has always had one of the best (if not the best) telecommunications systems in the world. Yet American telecommunications policy has been fitful and inconsistent, even destructive of the organization that created the system, the American Telephone and Telegraph Company (AT&T). The common parlance rhetorical question, "Why fix it if it ain't broke," must seem to many especially appropriate.

Interestingly, the tendency to fix things that ain't broke proceeds unabated. By such measures as price, service quality and growth the industry has performed even better after the wrenching changes of the 1970s and early 1980s. In the minds of most policymakers, however, it still needs fixing: in some cases "back to the future" actions to restore the status quo ante; in others further dismantling of long-standing policies, and in still others further reform of recent reforms.

This essay tries to explain the causes and consequences of the policy changes that have already taken place or that are now on the agenda. In one sense, it is a reader's guide to the world of divestiture, deregulation, price caps, and social contracts. But it also serves a broader and probably more durable function: to place the current policy debates in the broader context of the historical development of the industry. Controversy, instability, and inconsistency are enduring features of telecommunications policy and are likely to remain so.

One reason for these conflicts is uncertainty about the future course of technology and demand. What services are feasible? What services will customers want? Which are necessary to promote economic growth in communications-intensive industries? What elements of the industry, if any, are natural monopolies or are more efficiently provided by vertically integrated firms?

A more fundamental cause of conflict is that telecommunications policy must serve conflicting values: the ideology of free markets versus the currently conflicting ideology of government decentralization in the new federalism; the objective of cheap local service versus the objective of providing advanced services to increase productivity in communications-intensive industries; and potential technical efficiencies through integrated firms versus possible inefficiencies arising from market power and economic regulation. These conflicts are made more intense because each locus of policy responsibility tends to focus on only part of the problem and even to deny the existence of conflicts.

Issues and Players in the 1990s

For the remaining years of the twentieth century, and probably beyond, telecommunications regulation will be dominated by the changes in federal policy that were adopted during the 1970s. From the first development of a federal telecommunications policy in the early 1900s, government officials have recognized the desirability of competition; however, only in the 1970s did Department of Justice (DOJ) and the Federal Communications Commission (FCC) begin to believe that a significant part of the industry could be structurally competitive. The key events were the FCC's decisions to promote competition in customer premises equipment (that is, the various devices from simple telephones to complex switchboards that are used by the industry's customers to connect to the network) and in a limited range of long-distance services (initially private networks, dedicated point-to-point lines, and systems with different technical characteristics than AT&T's telephone network). These decisions created controversies regarding AT&T's treatment of its new competitors, which in turn gave rise to DOJ's antitrust complaint of 1974 and further procompetitive actions by the FCC.

The gradual move to promote competition actively complicated the tasks of telecommunications regulators. Before 1970 almost every part of the industry was a regulated monopoly. In this regime the job of regulators was relatively clear and straightforward: prevent AT&T and other local-service monopolists from using their market power to exploit their customers, while giving them sufficient incentives and freedom of action to expand and improve their services. Moreover, as might be expected in an industry controlled by politicians elected through a democratic process, an overriding objective was to make service available at a low price to as many people as possible.

Regulated monopoly produced exceptional performance. Rapidly advancing technology, arising in part from AT&T's stellar research arm, Bell Telephone Laboratories, caused the real costs and prices of products and services to decline while, simultaneously, service was extended to virtually all the nation's rural communities, where costs were several times as high as in the larger cities. This was accomplished in part by direct federal subsidy through the Rural Electrification Administration and in part by a system of price regulation that massively cross-subsidized customers in high-cost areas. By the time the federal government began to question the desirability and necessity of monopoly, virtually all households were connected to the network.

Despite this performance, during the 1960s federal policymakers became increasingly dissatisfied with AT&T's monopoly. The telecommunications network was becoming much more than a device for providing traditional telephone service to households. It was becoming an important input for a wide variety of industries, especially computers and microelectronics. These, in turn, formed a core technological base for much of the economy, from a bank's automatic teller machines to computer-aided multiplant manufacturing and delivery systems. As telecommunications, microelectronics and computers grew in importance in the rest of the economy, business users came to demand greater, more sophisticated technical capabilities from the network.

AT&T was aware of these developments. During the 1960s and 1970s the company developed and introduced a variety of new products and services. But the primary orientation of the company remained the telephone system. Meanwhile, relevant expertise about telecommunications had developed outside of AT&T and other large telecommunications firms, such as General Telephone and Equipment (GTE) and International Telephone and Telegraph (ITT). Owing to regulatory and antitrust policies of the 1950s, AT&T had stayed out of the computer and microelectronics industry and the latter steered clear of telecommunications. But the boundary created between these industries was artificial: a computer system includes complicated telecommunications arrangements among its components, and the switches in a telecommunications network are computers. Consequently, by the mid-1960s manufacturers and users of computers and other electronic equipment were developing numerous new ideas for using the telecommunications network and the expertise for carrying these ideas into practice should telephone companies prove unwilling or unable to do so. What became apparent to government officials during the 1960s was that AT&T, for all its technical sophistication, simply could not keep up with these demands. The federal government found it difficult to resist the requests of others to build their own systems with the capabilities that they wanted, rather than accept what they regarded as inferior services from the telephone industry.

By the late 1960s federal policy was being reassessed. The FCC investigated the future role of competitive long-distance services in response to requests from MCI and Datran to construct special purpose networks. Simultaneously, the FCC was trying futilely to define the boundary between telecommunications, which it would regulate, and computer services, which it would not, and exploring whether domestic communications satellites ought to be part of the regulated long-distance telephone monopoly or a separate, competitive industry. In each case the FCC decided to permit some competition, thereby opening the floodgates for entrants offering new products and services.

AT&T tried to preserve its regulated monopoly. It did so by denying its competitors access to the telecommunications network, by engaging its competitors in endless and costly litigation, and by adopting a policy of matching or beating the prices of its competitors, regardless of whether these prices covered the costs of the service.[1] These practices gave rise to antitrust complaints by DOJ and approximately forty private parties.

As DOJ's antitrust case developed, a controversy emerged among federal policymakers that has never been resolved. DOJ concluded that almost all of the industry could be competitive. The primary exception was basic local telephone service. In this case the argument for natural monopoly appeared to be stronger, although it remained unproved. In any event the Communications Act of 1934 had given states the authority to regulate local service, and DOJ thought it unlikely that state regulators would soon permit local service competition, even if it were economically feasible and warranted. DOJ also concluded that the motive and opportunity for anticompetitive behavior by AT&T arose primarily from the incentives created by economic regulation, as will be discussed below. State and federal regulation were both culpable; however, federal regulation was declining in importance as competition emerged in long distance and equipment manufacturing. State regulation was likely to be more durable. Hence, concluded the DOJ, the long-term solution to the problem of anticompetitive behavior in the industry was to separate local service from all other elements of the industry.

The alternative view, held by officials at the FCC and the National Telecommunications and Information Administration (NTIA), was that while the industry was not a natural monopoly, it was most efficiently organized as vertically integrated firms. To separate local telephone service from long distance, equipment manufacturing, and advanced services risked sacrificing important potential economies, especially with respect to new information services that were essential to emerging high-technology industries. They concluded that AT&T ought to be found guilty of violating the antitrust laws and perhaps required to spin off part of its empire. But the primary remedies they advocated were injunctions and regulatory rules protecting against future anticompetitive behavior, such as separate subsidiaries and open network architecture, also discussed below.

DOJ rejected this approach largely because it did not believe that judicial and regulatory rules could be effective in preventing a monopolist from advantaging an affiliate that provided competitive products and services. This belief was based on FCC failure to prevent anticompetitive abuses during the 1970s, despite reasonably vigorous efforts to do so. In the end DOJ's view prevailed, primarily because DOJ, in its role as the primary litigant in the antitrust case, controlled the decision about the type of relief it would seek.

This decision and DOJ's court victory created the present conflicts in telecommunications policy. The Modification of Final Judgment (MFJ), so named because it revises the settlement of a 1950s case, carries out the DOJ plan. AT&T was broken into eight parts: seven regional companies which provide "local monopoly" telephone services and an eighth company which provides "competitive" services and is comprised of Bell Labs, AT&T Long Lines, Western Electric (the manufacturing entity), and organizations for marketing equipment and fancy services. The cornerstone assumption of the MFJ is that regulated monopoly must be separated from potentially competitive, and hence potentially unregulated, markets. Consequently, the seven regional Bell Operating Companies (BOCs) are prohibited from participating in most markets that are, or might become, competitive, such as equipment manufacturing, long-distance service, and advanced information services. But the MFJ permits the BOCs to provide some competitive services, and contains provisions whereby the issue of the appropriate boundary for monopoly (on efficiency grounds) can be revisited. BOCs can request waivers from provisions that limit the markets in which they can participate, and in any event all line-of-business restrictions are reviewed every three years.

One major consequence of this arrangement is that it fragments regulatory responsibility and institutionalizes conflicts about how to deal with AT&T. Presiding Judge Harold Greene was convinced by Assistant Attorney General William Baxter that line-of-business restrictions on local service monopolies were necessary to assure competition elsewhere. AT&T, since agreeing to its divestiture, strongly adheres to this view, as do competitive suppliers of equipment and services. The FCC and NTIA, which opposed DOJ's divestiture plans from the beginning, still advocate vertical integration combined with technical and behavioral rules to protect against anticompetitive abuses. Naturally, the BOCs, desiring to become vertically integrated miniatures of the old AT&T, also adhere to this view. With Baxter's departure and the arrival of Attorney General Edwin Meese (among other things a BOC stockholder), DOJ formally switched to this view during the first triennial review of the MFJ.

Another important group of players, state regulators, defies generalization, but for the most part they are inclined to one of two views. One group regards the entire federally inspired move toward competition as a major mistake, and yearns for the reestablishment of vertically integrated monopoly with a federal-state regulatory partnership. This group tends to be motivated primarily by a desire to protect universally available, low-price, basic local service and to believe that this characteristic of telephone service is precarious. Another group of state regulators adheres more closely to the FCC-NTIA view. It sees a future in which remaining regulation is confined to local service and the states hold the dominant regulatory role. A third, small group of state regulators seeks to extend the logic of the antitrust decree to its ultimate implication at the state level: to permit competition every-where with the hope of eventually deregulating the BOCs in order to eliminate the perverse incentives of regulated monopoly.

Persistent conflicts between state and federal authorities do not arise solely out of a competition for authority. In part, they arise from differences in policy objectives and in views about the underlying economic and technological trends in the industry. But they are also due to an illogical and vague division of regulatory responsibility in the law. The Communications Act of 1934 gives the FCC the authority to regulate the interstate portion of the telecommunications industry and to regulate the intrastate portion to the extent that it significantly affects the FCC's interstate policies. Otherwise, regulation of the intrastate portion is left to the states. In addition, the "state action" doctrine in antitrust accords states the power to exempt from federal antitrust laws firms which are regulated by the states.[2] In telecommunications this means that federal deregulation of a product or service may lead to state reregulation, including prohibitions against competitive entry.

The difficulty created by these jurisdictional separations is that they presume the existence of distinct federal and state services. The telecommunications network, however, is an integrated system. Very little of it is used exclusively to provide strictly intrastate services. As a result, the FCC and state regulators often find themselves regulating the same thing. For example, conventional long-distance calls normally include a charge to use local networks at the origin and termination of the call. If the call is interstate, the FCC regulates these prices; however, if it is intrastate, the state regulatory authority sets the price. Of course, both calls use the same facilities for exactly the same purpose. In all network industries jurisdictional separations are artificial and arbitrary to some degree, but these distinctions make the least sense in telecommunications.

Since the creation of the FCC in 1934, the courts have interpreted the agency's statutory authority as giving it considerable latitude in asserting jurisdiction over state regulation. The FCC was permitted jurisdiction over cable television because the way cable developed affected FCC policies regarding over-the-air broadcasting and over the rental or sale of customer premises equipment (CPE) to deregulate it because CPE was used in part for interstate services. Both decisions would seem logically to apply to basic local telephone service. The conditions of local service provision affect FCC policies regarding interstate service, and obviously local networks are the first and last steps of long-distance service. Yet this logic is widely regarded as indecisive for two reasons. First, the Communications Act of 1934 does not grant primary jurisdiction to the FCC for the entire system, no matter how much sense this might make on purely technical grounds. Legal authorities and, more importantly, judges therefore conclude that Congress has directed that something be left to the states. As the FCC comes closer to trying to regulate the basic local network, it faces a heavier burden of proof to show that its assertion of jurisdiction is necessary.

Second, in recent years the cycle of national politics has once again swung in favor of states rights. In the Reagan administration, the strong commitment to unregulated free markets was secondary to an even stronger commitment to the new federalism. The latter means devolving policy responsibility to the lowest possible level of government on the grounds that the closer one gets to the bottom of the federal pyramid, the more likely it is that government decisions will respond to citizen preferences. According to this principle, if federal authority does not arise out of a consensus among state and local officials that federal control is necessary, there is a strong presumption that the assertion of federal authority is unwarranted.

Thus far, the practical consequences of both points of view are not completely clear. The FCC has not suffered any significant setbacks in court, and Judge Greene's divestiture requirement has yet to be overturned, even though it is a clear federal assertion of authority over some aspects of intrastate services which remain regulated by the states.[3] A practical limit to the FCC's jurisdiction undoubtedly exists, but its location is uncertain and subject to swings in the reigning political philosophy of DOJ, the FCC, and the federal courts. Indeed, the jurisdictional boundary between state and federal regulation is arbitrary, uncertain, and subject to random changes. As a result, federal-state conflicts are not only inevitable, but perpetual, for a loss by one side today does not assure a loss tomorrow on a similar issue.

Standing in the wings is a final group of actors who are continuing threats to assume major roles: the Congress. Congress created the basis for much of the current conflict by failing to clarify the roles of antitrust and economic regulation and the boundary between state and federal authority. For two decades many industry observers, and some members of Congress, have advocated revising the Communications

Act to clarify these issues in light of the current economic and technical realities of the industry. To date Congress has simply issued intermittent threats of legislative action, combined with informal committee oversight hearings. The role of Congress has been primarily negative: to fail to take actions that would undo changes brought about by the FCC and DOJ.[4] Congress explicitly considered legislation that would have preserved the old AT&T monopoly (the "Bell Bill" of 1976) and then further legislation that would have thwarted Baxter's divestiture plans in favor of a solution more like that advocated by the FCC.[5] Nonetheless, it would be a mistake to conclude from this that Congress adheres to the basic divestiture-competition-deregulation approach of the MFJ. Instead, Congress, as a large collectivity, is divided on these issues, as are other major players. Congress probably can agree that it prefers competition to monopoly. Indeed, the Communications Act of 1934 did not exempt the industry from antitrust and did not formally declare itself against competition, as it did in several other regulatory statutes of that era. Nevertheless, Congress has not achieved consensus on the extent to which competition is desirable or on the best approach to pricing regulated services. Congress is rarely likely to reverse actions by any of the other players—the FCC, the courts, or the states.

As the twentieth century comes to a close, telecommunications regulation remains both contentious and fragmented. Numerous policymakers, each having authority in some domain of the industry, pull national policy in different directions. The commitment to extensive competition in the industry is probably irreversible; however, exactly how extensive it will be and what form of regulation will constrain competitors or protect against monopolistic abuses remain matters of great controversy.

The Enduring Issues: Prices and Structure

The agenda for telecommunications regulation in the 1990s has largely been established in the ongoing cases in federal and state regulatory bodies and in the federal courts. These issues fall into two general categories, which refer to the two classes of policy instruments available to regulators. One is setting prices, and the other is deciding the structure of the industry: which firms will be permitted to operate in which markets, and who, if anyone, will regulate them. The two issues are, of course, highly related, for a decision to permit open entry into a market greatly constrains the price-setting abilities of a regulator, and pricing policies influence the entry decisions of competitors. Nonetheless, as a procedural matter structural issues normally are considered separately from pricing issues.

Pricing

Historically, almost all economic regulation has the same general approach to pricing. First, overall prices are set so that the firm covers its costs of doing business, including a reasonable profit on its capital investments. The point of this stage is to prevent a natural monopoly from fully exercising its monopoly power; hence the focus is on controlling overall prices by controlling profits on invested capital.[6] Second, regulators set the structure of prices. This process allocates the costs of the firm among its customers.

For the most part regulators set the price structure on the basis of their perceptions of distributional equity. Three largely conflicting principles enter into these decisions. Because economic regulation began as the response of the midwestern Granger Movement to its failures in obtaining effective court enforcement of common law prohibitions against price discrimination, one pricing principle is to set the same price for similarly situated customers.[7] Another principle is to provide ubiquitous service. Originally, this took the form of assuring transportation and grain storage services within a day's journey of every midwestern farm; a contemporary manifestation of this principle is "universal service," or a telephone in every home. The final principle, "value of service pricing," is a means of reconciling conflicts between the other two principles. If an affordable uniform price is not consistent with the profitable operation of the regulated firm, prices will be raised for those groups that value the service most highly.

In telecommunications these principles produced the policy of residual pricing. The goals of universal service and nondiscrimination led to residential prices that were low enough to induce almost everyone to subscribe. Value of service led to lower prices in sparsely populated areas than elsewhere because rural folks had fewer near neighbors with whom to talk and hence were assumed to derive less value from local telephone service. All this caused revenues for basic service that were below costs. Value of service pricing for other services was then used to collect the additional revenues needed to cover the costs of the firm. As a practical matter this meant, more or less, setting prices for other services to maximize gross revenues.

An important characteristic of traditional pricing policy is that costs figure prominently in setting the general level of prices, but play little or no role in setting the price structure. Indeed, state rate hearings commonly make no attempt at all to estimate service-specific costs. Somewhere along the way regulators turned on its head the old common law nondiscrimination principle. First the common law, then subsequently antitrust, tried to prevent differences in prices that were based solely on "value of service"—that is, the extent to which, for reasons of demand intensity or the absence of competitive alternatives, a firm might be able to extract more from one customer than another, regardless of the costs of service. Price differences owing to differences in the cost of service are, and always have been, legal exceptions to the antitrust principle of uniform pricing. By contrast, economic regulation essentially ignored costs as a basis for price differences and so is fundamentally in conflict with antitrust and its common law antecedent.

The failure to consider costs in setting the structure of prices causes several important problems. The first is that it perverts the investment incentives of regulated firms. In the absence of residual pricing policy, a firm would introduce a new service only if the service could pay for itself, taking into account any adverse effect it would have on the market value of other services. Residual pricing typically eliminates this consideration. A firm which makes the necessary expenditures to provide the new service sees little or no connection between those costs and the revenues the service will bring. Under residual pricing it proposes a revenue-maximizing price for the new service, makes investments necessary to serve all customers at that price, adds these costs to its overall revenue requirements, and makes whatever adjustments are necessary to other prices to cause total revenues to equal total costs. If the service is economically warranted in that consumers will pay substantially more than the service costs, it can be very profitable and thereby lead to reductions in other prices. But if it is a loser, other prices will have to be increased, notably the basic service price for residential customers or businesses. Because the demand of these two latter groups is highly inelastic—that is, a small increase in price will cause virtually no residence or business to cancel its basic service—the firm is assured that it can always recover losses from uneconomic services. Moreover, because the firm's profits are proportional to its invested capital, uneconomic services increase the total profits of the firm by increasing its stock of invested capital. Consequently, a firm subject to residual pricing is likely to be quite innovative with respect to new services, assuming regulators do not stand in its way. The cost, however, is that this will entail the provision of some uneconomic services. The second problem of traditional price regulation is that the firm has blunted incentives for cost-reducing innovations for customers who are already served, and who have relatively inelastic demand, such as residential and small-business customers for basic local service. Cost-reducing technologies lower revenue requirements, and hence cause lower prices in general. If some markets have elastic demand, a price reduction there causes a compensating increase in sales that can justify substantially more investment. If so, the increase in capital investments can offset the cost reductions, and leave the firm better off. But under residual pricing, firms are unlikely to have any significant markets with elastic demand. Universal service dictates very low basic service prices to serve very inelastic demand; residual pricing for the remainder dictates prices at or below the point of unitary demand elasticity (that is, below the range where they are elastic). Hence, the firm has little to gain from cost reductions, especially in the highly inelastic basic local service market.

The third problem with traditional pricing policy only emerges when competitors attempt to enter a market served by the regulated firm. Competitors presumably enter because they believe that they can earn a profit at a price below the one charged by the incumbent firm. The effect of entry is to reduce the incumbent firm's sales at the current price, as customers switch to the entrant, and to make the incumbent's demand more elastic. The latter occurs because, if the incumbent lowers its price, it will not only pick up some new customers that were not served prior to entry, but also recapture customers from the entrant. The consequence is that the incumbent firm can preserve the need for its capital investments in this market by lowering its price and making a compensating price increase elsewhere so as to leave its total revenues in line with its total costs. Indeed, residual pricing demands that it do so because competitive entry will lower the price of a service at which its revenues are maximized. Of course, a regulated firm would prefer no entry at all to an effective price response. If the entrant survives, the incumbent loses some business, and hence investment on which profits can be earned, and some more is lost by having to raise prices elsewhere. The more attractive strategy is thus to prevent initial entry. In any regulated industry one means to accomplish this objective is to tie up the entrant in expensive litigation concerning whether entry ought to be allowed and, if so, on what terms and for what purposes. In network industries like telecommunications, where one service is likely to require others as an input, another way to discourage entry is to prevent the entrant from gaining access to these services or to provide them on highly unfavorable terms.

The previous arguments do not depend on the actual costs of either the incumbent firm or the entrant. Whether or not entry is economically warranted, it will occur if the entrant believes the incumbent's price will remain higher than the entrant's costs. Regardless of the relationship between price and cost on the part of the incumbent, the incumbent's best response will be to lower price and/or to engage in other actions to inhibit the entrant. Thus, the comparative costs of the two firms do not play the central role in determining how they will eventually divide the market. A higher-cost entrant may survive because it does not make the incumbent's demand sufficiently elastic to force a large enough price reduction to drive the entrant from the market. A lower-cost entrant may fail because of precisely the opposite effect. Similarly, the high-cost firm may enter a market in which the incumbent's entry-foreclosing tactics are relatively ineffective, but a low-cost firm may decide not to enter because such tactics would work very well. There is simply no reason to believe that, with traditional price regulation, competition will be successful in markets where it is efficient and unsuccessful in markets where it is not. One advantage of unregulated competition is that costs play a larger role in determining a firm's financial success.

Regulators are aware of these problems, and have devised a number of policies to cope with them. Some are structural, and will be examined in the discussion of structural policies. Others concern price regulation.

The obvious solution to the regulator's pricing problem is to devise a method for estimating the costs of service. Regulators can then assure that a regulated firm does not survive in a competitive market because it is setting prices below average or marginal cost of service and making up the losses with excess profits earned elsewhere. If the firm passes the cost tests, the regulator is likely not just to let the firm cut prices to undermine competitors, but to encourage the firm to use other means to prevent entry. The reason is that both the regulator and the firm agree that the market should be protected from entry: the firm because this maintains its markets and profits, the regulator because it maintains a flow of profits to help hold down the price of universal basic service. If the firm fails the cost tests, the interests of the firm and the regulators diverge. The firm would like to keep the market and raise prices elsewhere to offset the loss, but the regulator, in protecting universal service, opposes such a move. Nonetheless, the incumbent and regulator may agree on keeping out the entrants, the latter because a high-cost monopoly may provide the most revenues for holding down basic service prices. Of course, such a policy is costly to society, for it does not lead to the provision of all services at least cost. Moreover, it further weakens the incentive of regulated firms to be efficient.

Until the 1970s neither state regulatory authorities nor the FCC seriously attempted to set cost-based prices in regulating AT&T. The introduction of competition in long distance and customer equipment altered this situation at the FCC. AT&T responded to competition by seeking to cut prices. Predictably, competitors claimed that the proposed prices were predatory: below cost and designed to bankrupt the entrants. AT&T then claimed that the prices could pass any reasonable cost test and were simply a legitimate competitive response by an efficient supplier to entry by less efficient upstarts.

To unravel these claims the FCC needed two things that it had lacked: reasonably accurate estimates of service-specific costs and a theory of how to use cost data to test for the legitimacy of prices.

Economics provides the latter, specifically recommending that prices be based on marginal costs. If prices set equal to marginal costs do not produce enough revenue to keep the firm solvent, one of two prescriptions is offered. The best solution is to set a high price for the first unit, or few units, of service and then to price the rest at marginal cost. In common parlance these are referred to as quantity discounts, declining block rates, or two-part tariffs. If for some reason this is not possible, the second best solution is Ramsey pricing:

that is, to set prices above marginal cost, with the difference between price and marginal cost greatest for services with the most inelastic demand.

Unfortunately, these prescriptions are of questionable practical value in telecommunications. First, optimal pricing would produce a distribution of the cost burden of telecommunications services that is inconsistent with the political basis for regulation. Optimal pricing recommends abandoning rate averaging across areas with widely different costs, which would lead to much higher prices in high-cost rural areas and small towns. Moreover, if Ramsey pricing were invoked, the result would be explicit price discrimination against people with highly inelastic demand—specifically, the residential and small business users who have no realistic competitive alternatives and who place very high value on basic telephone service.

The second difficulty in applying optimal pricing rules is that they are virtually impossible to implement with reasonable precision. Telecommunications technology is highly complex, and the services it provides tend to be joint products. Identifying the costs caused by any particular service is extremely difficult. Moreover, relevant aspects of the cost structure—the division between fixed and variable costs and the extent to which services are provided as joint products—are in part decisions by the firm that are difficult to second-guess with confidence. Yet, to maximize flexibility in responding to entrants, firms have an incentive to adopt technologies that minimize the costs attributable to any potentially competitive service.

The problem of applying cost tests is least tractable if regulators seek to use the most appropriate cost concept, which is the prospective costs the firm will face if it uses the best technology. The relevant test for whether a firm should survive in a market is what its costs are likely to be, not what they have been. But implementing prospective cost tests requires assessing the costs and performance of new technologies. Regulators are not likely to be able to exercise effective oversight of a regulated firm's contentions on such issues. Not only is the firm likely to be better informed about technical possibilities than is the regulator, but the evidentiary and procedural requirements of regulatory rulemaking and price-setting further constrain the regulator from imposing decisions that are at odds with the data submitted by the firm.

For two decades the FCC, and some state regulators, sought accounting rules that would let them escape these problems. The objective was a procedure for regulating the price structure that would keep prices low for residential and small business users (universal service), but that would keep both regulated firms and competitors in the right markets from the perspective of economic efficiency. Only recently have large numbers of regulators perceived that the search is futile; hence the genesis of numerous new pricing proposals that are advertised as alternatives to rate-of-return regulation. Suffice to say here that they all require precisely the opposite strategy of optimal pricing theory. In particular, to induce efficiency they require regulators to make a credible promise to set future prices without regard to future costs. Only then can regulators eliminate the incentive of a regulated firm to evade the spirit of regulation by increasing allowed revenues through piling on costs in uneconomic services or in markets where it is an inefficient competitor.

Structure

When regulation was introduced in the latter half of the nineteenth century, it was not contemplated that regulators would control the structure of the industry. The first regulated industries—railroads, grain elevators, and toll roads—were regarded as partly competitive and partly monopolistic. Prices in competitive markets (such as grain storage in major transportation centers or transportation between cities connected by multiple carriers) could provide the basis for setting prices in the smaller, less competitive markets. Indeed, the first wave of state Granger laws set explicit price ceilings for monopoly services equal to the prices then prevailing in competitive markets.

This approach proved to be an unrealistic expectation of how regulation would work in practice. Regulatory agencies had to respond to the constituencies that were most effectively represented in regulatory policymaking, either at the agency or through elected political officials. Hence, cost-based tests to ascertain the legitimacy of the price structure gave way to the principles of distributional equity. This in turn caused relative prices to depart ever more widely from relative costs.

If a regulated firm is required to set individual prices that differ dramatically from costs of production, two consequences are likely to ensue. First, the firm will not want to serve markets where prices are below costs unless it is guaranteed that the losses will be made up elsewhere. Second, if some prices are substantially above production costs, competitors are likely to emerge to challenge the regulated firm in those markets. Hence, the distributional objectives of price regulation, as dictated by the politics of regulatory policy, require that the regulator control entry so as to prevent competitive pricing from eroding the price structure.

The common approach to entry in regulated industries is to permit it only if it satisfies a rather peculiar test: that the entrant will provide a new service or serve some customers who are not served by the incumbent. Thus, entrants must prove that they are correcting an oversight by incumbents, rather than attacking the structure of regulated prices. The first competitive carriers and equipment suppliers were permitted to enter because the FCC found that AT&T and other established firms were not doing what the entrants proposed to do. Of course, the logical extension of this process required that the FCC prevent entrants from duplicating AT&T services; hence the ill-fated decision by the FCC in *Execunet*,[8] whereby the commission unsuccessfully sought to prevent MCI from offering ordinary message toll telephone service.

Although the FCC has pursued many procompetitive policies since the late 1960s, its structural policies have not been consistent. *Execunet* is but one example of a series of FCC decisions, or lack of decision, that limited the extent of competition in the industry by limiting (or failing to encourage) entry.

In the case of interexchange carriers, entry into interstate service is now essentially unconstrained by the FCC. Likewise, bypass technologies to connect to interexchange carriers are also largely unconstrained by the FCC. However, many states have imposed effective restrictions against entrants seeking to use technologies that the states regard as within their jurisdiction to regulate.[9] In some cases, the FCC has asserted jurisdiction over an aspect of local service for the purpose of encouraging competition. For example, the FCC recently declared invalid a state policy of preventing cable television systems from offering bypass services. Later, the FCC withdrew its order when the carrier giving rise to the decision decided not to offer bypass. The commission did not want to risk a defeat in its jurisdictional battle with the states on a moot issue; however, its reversal discourages future entry into markets occupied by local telephone companies.

In some cases the FCC has created structurally uncompetitive markets. The best example is radio telephones. Here the FCC limited the number of cellular radio companies in any city to two, permitted one to be the local telephone company, and required a system designed primarily for mobile telephones. This policy almost guaranteed that radio telephones would not offer significant competition to wire-based local telephone service and that even for mobile services the market would be at best a duopoly, rather than structurally competitive. Moreover, by giving part of the service to local telephone companies, it created an opportunity for states to regulate it as part of local telephone service and thereby further to subvert its potential for introducing local service competition.

The inference to be drawn from the history of the FCC's structural policies is that fostering competition has had reasonably high priority since about 1970, but that it is an objective readily sacrificed for other purposes. It would be unfair to claim that the FCC is uninterested in creating competitive markets; more accurately, creating entry conditions conducive to competition has not been the overriding purpose of the commission. To a great extent the FCC has been less procompetitive than the courts, particularly in the *Execunet* and AT&T cases.

Policymakers have also addressed the structure of telecommunications firms. On a few occasions the FCC has considered issues relating to the structure of AT&T: should it be permitted to be vertically integrated among manufacturing, interstate toll service, and local exchange service? For the most part it has reacted passively to antitrust policy developments on such issues.

One major exception to this pattern is the FCC's brief imposition of structural separation between regulated monopoly and unregulated competitive services offered by AT&T (the "separate subsidiaries" requirement). At approximately the time that the FCC realized the futility of its search for an acceptable method of estimating service-specific costs to guide decisions about AT&T's rate structure, the commission broached the idea of a structural solution to the problems of rate-of-return regulation. It suggested letting AT&T into competitive markets only if it did so through a division without common costs or other overlaps with AT&T's regulated monopoly businesses. In theory, with full separation AT&T would have incentive to provide inefficient service or otherwise to obtain a larger market share than was justified by its costs and service quality. AT&T's competitive subsidiaries would be forced to use their own facilities or to purchase AT&T's regulated services at prices available to all. This would eliminate the difficulty of estimating the appropriate division of costs between competitive and regulated services and guard against the transfer of losses in competitive services to higher prices in monopolized markets.

The proposal created artificial institutional barriers that could prevent AT&T from adopting the most efficient corporate structure, while it failed to protect against some of the abuses described above. It could not protect against subsidization of R&D in competitive markets nor against intracorporate communications and patterns of behavior that would disadvantage AT&T's competitors. It could not even fully protect against cross-subsidization of facilities used for competitive services. If AT&T's technology in competitive markets was somewhat different than that of its competitors, it would require somewhat different services from the regulated part of AT&T. Freely available prices to all offer little protection if no one but an AT&T affiliate wants the service or is capable of making use of it in the manner in which it is offered. For these reasons, the separate subsidiaries requirement lost favor at the FCC, and disappeared (although some states still apply it to BOCs). While the FCC lacks consistent, intense concern with structure, structural concerns have dominated antitrust policy in telecommunications since the turn of the century. The first AT&T antitrust case forced the divestiture of Western Union; not long after the AT&T long-distance system caused antitrust concerns. As the Bell patents on telephony expired, local service competition sprang up, so that Bell's market share fell to less than 50 percent soon after 1900. Moreover, in many lucrative big city markets, Bell faced head-to-head competition with duplicative local networks.

Meanwhile, AT&T had developed the first reasonably high-quality system for transmitting long-distance calls. It decided to leverage its long-distance monopoly to recreate the old Bell system, refusing to let other local telephone suppliers use its technology or connect to its long-distance network. It then used its new service first as a means to attract customers away from its competitors and then to force others to sell out to AT&T so their customers could gain access to AT&T long distance.

This reconsolidation troubled antitrust authorities. Interestingly, structural issues circa 1910 were quite the opposite of contemporary structural concerns. Then, the issue was whether a legal patent monopoly in long distance should be used to monopolize a rivalrous local telephone industry. In this instance the antitrust authorities did not impose a structural solution. AT&T agreed to let others connect to its long-distance system and to subject itself to regulation; after a short pause it continued its acquisitions, until ultimately it served 85 percent of all local telephone subscribers.

The third structural issue arose soon after AT&T's telephone services began to be regulated and concerned the appropriateness of vertical integration by a regulated monopolist into equipment manufacturing. The issue here was the possibility that vertical integration would enable a monopolist to evade regulation by transferring monopoly prices in services to the manufacturer in excessive equipment prices. Another concern was economically unwarranted self-dealing, whereby a regulated monopolist would purchase from its own affiliate even if competitors offered superior equipment at lower prices.

These issues were aired by Congress and the FCC in the 1930s, but nothing was done other than to hold hearings, write reports, and sound alarms. But in 1949 DOJ filed suit against AT&T, seeking divestiture of its manufacturing arm, Western Electric. Before the case could be completed, President Eisenhower's administration paid heed to the Department of Defense pleadings not to break up the telephone company. The case settlement was ludicrous. AT&T retained Western Electric, but agreed not to enter any business other than telecommunications and to make its technology available through licensing arrangements to companies in other industries. While this may have served the interests of the Department of Defense in transferring AT&T's knowledge about semiconductors to the nascent computer and microelectronics industries, it assured that telecommunications equipment would remain free of competition and that one of the world's most technically sophisticated companies would be barred from entering businesses in which it would have proven to be an effective competitor.

The most recent antitrust case against AT&T swung the axe from a different direction but with fundamentally the same purpose that motivated the 1949 suit. DOJ's case depended partly on the failure of regulators and its own previous settlements to deal effectively with the abuses of price regulation. Part of DOJ's case was testimony from some then-present and former regulatory officials about the hopeless task they faced in preventing cross-subsidization of competitive services, discriminatory acts against competitors, and, ultimately, evasion of regulatory objectives concerning AT&T's captive monopoly customers. While the FCC was seeking solutions in accounting rules and separate subsidiaries, DOJ was seeking to restructure AT&T to eliminate the incentives and opportunities to engage in the same behavior that the FCC sought to prevent.

The policy that emerged from DOJ's case was the "quarantine theory." In its purest form it means preventing a regulated monopoly from participating in potentially competitive markets in order to protect the latter from the abuses encouraged by rate-of-return/residual-pricing regulation. It accepts the danger of protecting inefficient competitors who legitimately should be destroyed by the local service monopolist. In return it guarantees that inefficient monopolists will not retain a market solely by taking advantage of their regulated status. Of course, such a stark choice, one way or the other, is required if one accepts the premise that price regulation must create incentives to engage in such behavior and that regulators are ineffective (and perhaps uninterested) in preventing it.

The 1982 MFJ gave DOJ most of what it had sought but contained several important exceptions to the complete quarantine of the BOCs. The BOCs were given the right to participate in the markets for directories, private lines, cellular radio, the resale of customer equipment (but not its manufacture), and a form of business extensions (Centrex), all of which are potentially, if not actually, competitive. The BOCs were also permitted to undertake research oriented toward other competitive markets but were required to license any of the advances ensuing from such research, rather than exploit them directly. If the basis of the quarantine theory is correct, all these departures should lead to excessively high market shares for the BOCs and inefficiency in markets related to the exceptions, thereby retarding competition and sowing the seeds for further antitrust activity against the BOCs.

Finally, in drawing up a divestiture agreement, DOJ and AT&T were forced to define clearly what was meant by local service. As a result, the MFJ established what has come to be a new political jurisdiction —the Local Access and Transport Area (LATA). LATAs are much larger than a local exchange and number 160 in the entire nation (about three per state). About 25 percent of long-distance service is inside a LATA and is virtually completely monopolized by the Bell Operating

Companies. Interexchange carriers, like AT&T, MCI, and US Sprint, are generally permitted to offer service only between the LATAs. Most states have either prohibited intraLATA long-distance competition or inhibited it through technical restrictions and access pricing policies. In any case, states regulate intrastate long distance, whether within or between LATAs.

Postdivestiture Performance

The most important changes in federal telecommunications policy are recent. Free entry and competitive pricing by entrants in long-distance telephone service have been fully in place for less than a decade; customer equipment and specialized long-distance services have been open to competition for only a little longer. Divestiture, with the concomitant elimination of potentially anticompetitive relationships between some competitive and local monopoly services, took place only in 1984. In none of these instances was a product or service actually structurally competitive at the time that policy was altered; in every instance AT&T enjoyed a market share of 80 to 100 percent. But because the growth of effective competition takes time, one can hardly expect within a few years to have reached whatever new performance level—good or bad—that these policies will ultimately produce. Nonetheless, some clear patterns are beginning to emerge.[10]

In customer equipment, where competition has been relatively free for the longest period, most markets are now structurally competitive. AT&T's market shares have fallen precipitously, and for many types of equipment are now under 20 percent (down from 80 to 90 percent only a decade earlier). In equipment sold to telephone companies, AT&T's market share has fallen to between 40 to 60 percent, depending on the specific product. Typically, these latter markets are dominated by AT&T and one or two other firms. Thus, procompetitive policies have replaced a virtual monopoly with a two or three firm oligopoly, although firms who manufacture equipment for other markets could enter in the future. The manufacture of equipment for telephone companies is still not perfectly competitive, but it is substantially more competitive than it was, and may become more so.

AT&T still controls nearly 80 percent of the long-distance market, although this share declines each year. Full-fledged competition in long distance has been permitted by regulation only since the courts overturned the FCC's *Execunet* decision in 1978. Moreover, this market was further handicapped in two ways. First, it was most susceptible to anticompetitive actions by the undivested AT&T and by state regulators, most of whom fought the emergence of long-distance competition. Second, after divestiture the BOCs were not in a position to offer competitive long-distance companies the same type of access to their local exchanges that was provided to AT&T. The divestiture plan required "equal access," but this demanded a massive reinvestment program by the BOCs to reconfigure their local networks so as to provide it. Only in 1988 did the fraction of BOC customers who have equal access reach 80 percent. The proportion among other local telephone companies, who serve 15 percent of the customers, was about 50 percent in 1988. The true test of the viability and performance of long-distance competition will take place in the 1990s.

Some local services have become somewhat competitive. Since divestiture, approximately half of the new capacity in local facilities has been constructed by entities other than local telephone companies. These include local private networks (such as privately owned local systems within large buildings), metropolitan area networks (where a company constructs a special purpose network for a variety of intensive users of telecommunications services), and bypass systems (where a customer connects its telephones directly to a long-distance carrier, rather than use the local telephone network for such connections). The extent to which such systems have emerged varies considerably across the nation. These competitive alternatives are practical only for the top few percent of telecommunications customers who account for a third or more of the use of telecommunications services. Moreover, many states continue to inhibit some or all competition against local telephone companies.

With few exceptions competitive alternatives are not available to residential and small business customers. The most promising technical alternatives are cellular radio, which is now used almost exclusively for mobile service, and "shared tenant service" (STS). By using STS residences of an apartment house or the same neighborhood or businesses in the same shopping center could form a small cooperative telephone company for calling among their members and for providing bypass to a long-distance carrier; however, STS still must connect to the local telephone company for local service. Unfortunately, most states prevent or severely limit the extent to which STS is available.

Recent trends in prices reflect the changes in market structure. Prices for virtually all equipment and services have fallen substantially in the 1980s. The fall in long-distance prices is less dramatic than it might appear, for much of it is due to reductions in carrier access charges paid to local telephone companies for connecting customers to long-distance networks. This has been offset by increases in subscriber access charges. Nonetheless, the fraction of long-distance revenues accounted for by access charges has actually increased despite the reductions in access tariffs, indicating that the prices charged by the long-distance carriers have also fallen.

The primary exception to the trend toward lower prices is the charge for basic local service.[11] The data on monthly basic service rates show three clear trends. First, local exchange service prices have increased sharply during the 1980s, unlike all other prices for telecommunications services and equipment. Second, prices have increased more rapidly in the least urbanized states and, within these states, in the smallest communities. Third, residential and business customers in smaller communities still pay less for service—and much less in the most populous states—even though the cost of service is much higher in small communities.

These price patterns are to be expected if, before divestiture, residual pricing is a roughly accurate description of the pricing policy of the industry. Divestiture and competition have reduced the extent to which other services can subsidize basic exchange service in small, high-cost communities. These effects should be most pronounced in the smaller states which benefited most from the residual pricing system (because they had the highest fraction of residents in small communities) and which, after divestiture, have had fewer opportunities for using intrastate services to continue this subsidy. Hence, after divestiture prices should be expected to rise more rapidly in the smaller states and especially in rural areas in the smaller states. Meanwhile, small communities in larger states can continue to be subsidized by other intrastate services, at least to a greater extent than elsewhere.

Perhaps the single most important feature of local exchange prices at the end of the 1980s is the nature of the subsidy for local service. For reasons discussed above, the actual costs of basic local service are not precisely known, and especially unclear is the difference in costs between large cities and small communities. Nonetheless, the price changes of the 1980s have certainly eliminated any subsidy for single-line business service in larger cities and may have eliminated it for residential customers in larger cities. The nationwide average book cost of basic service is widely estimated to be between $25 and $30 per month. But in states with the lowest population densities these costs in some cases exceed $40, while some telephone companies which operate in a single urban center, such as Rochester Telephone, have average costs below $20. Hence, at current prices of $35 a month or more, businesses in large cities are not subsidized, and residential prices of $14 or more (including the FCC's interstate subscriber access charge), which are now common in large cities, can not be greatly subsidized. But subsidies remain immense for small cities and rural areas, where prices are lower than in large cities, but historical book costs are probably two to ten times higher. Of course, in all cases, but especially in rural areas, book costs are not prospective costs. The latter are probably lower than the former, owing to rapid advances in the technology of the local network.

Whether recent price trends and growing competition constitute improved performance for the industry as a whole surely depends to some degree on who is making the evaluation. Overall, prices are lower and efficiency is greater, but the primary beneficiaries are consumers of services and products controlled by federal policy, and the most intensive users of telecommunications services who can take advantage of new competitive options in local service. Residential and small business customers who use ordinary telephones primarily for local calling are worse off, especially those in smaller communities, largely because they are less subsidized than before by excess profits from other services. And, in states where these groups constitute an effective political constituency, more than likely state regulators are worse off as well. Hence, it is not surprising that many states have resisted competition and deregulation, even though on balance the performance of the industry has improved.

Current Regulatory Controversies

Pending regulatory issues reflect an enduring characteristic of telecommunications policy: neither the pricing nor the structural issue has ever been or is likely to be resolved. The telecommunications system is not, and never was, broken. Rather, its underlying technical and economic characteristics create an enduring policy dilemma. One can regulate prices and structure to encourage maximum feasible competition or to promote an integrated monopoly. What is infeasible is a "neutral" formulaic policy regarding prices and structure that will assure the right mix of monopoly and competition. The current policy agenda continues the futile search for better regulatory instruments and also includes rearguard actions by the people who lost the last time around—who are not, and probably cannot be convinced that deregulated competition is the best policy.

Pricing Proposals

DOJ's case for divestiture turned on the pernicious incentives that were created by price regulation. Many who believed that AT&T had violated antitrust laws were nonetheless reluctant to impose divestiture, fearing that it would sacrifice the benefits of a vertically integrated, ubiquitous telecommunications entity. They sought better regulation as a means to stop AT&T's anticompetitive behavior.

Exactly what form "better regulation" would take was a rather fuzzy and changeable topic. In the 1970s a group of economic theorists began to develop an entirely new approach to price regulation.[12] Their objective was to create a pricing rule that would eliminate the incentive for regulated firms to pad costs and to operate in unprofitable markets and that would also succeed in preventing monopoly profits. One theme persistently emerged: to decouple prices from costs so that firms benefit from cost reductions and not by suffering losses in any market.

Proposals emerging from this work have popped up in federal and state regulatory proceedings as "price cap," "social contract," and "incentive" regulation. Each includes a variety of specific proposals.

Incentive regulation departs least from traditional pricing policies. The idea is to let regulated firms keep some portion of their cost savings, even though this means that they will earn a greater return on investment than regulators initially estimated as the cost of capital. Typically, rate-of-return regulation uses costs from a previous year as the basis for setting future prices. A firm which succeeds in reducing costs can then suffer two fates at the next rate hearing: its prices will be reduced so as to pass its lower costs on to its customers, and it can be required to rebate the excess of its revenues over costs since the last review. Incentive regulation involves at least one of the following: the firm may not be required to rebate all (or even any) of its excess revenues between rate hearings as long as its cost estimates are not fraudulent; future price reductions will be less than the amount required to recover the firm's actual lower costs.

Under incentive regulation firms have a greater incentive to reduce costs. A firm is encouraged to allocate R&D to cost-reducing process innovations and away from cost-increasing service enhancements. However, this process is still rate-of-return regulation. Allowed revenues equal allowed costs plus a fraction of cost reductions. For corporate planners this provides added incentive to reduce costs in the markets in which a firm operates but none to retain as large a market share as possible. Maximizing sales serves, first, to maximize allowed costs (including allowed profits) and, second, to maximize the volume of services in which cost reductions are possible (and hence in which profit bonuses can be earned). Consequently, incentive regulation does not reduce the incentive of a regulated monopolist to retain as extensive a monopoly as it can, even if this means retarding economically warranted entry. While incentive regulation offers the possibility of a more efficient regulated monopoly, it offers no improvement over traditional regulation to promote desirable competition.

Price cap regulation is a more radical system for guiding price adjustments over time. One starts with a set of prices inherited from history, which may or may not bear any relationship to costs and forms an index of these prices. For example, one might use last year's volume of sales for each service as the set of weights to form the price index. Next, one sets a target for the annual change in the price index. Because the telecommunications industry has relatively rapid technological change, the target would normally be a reduction in real and nominal prices. Finally, in each year the firm is permitted to adjust its prices in any manner it sees fit, as long as the index satisfies the target. Using the same quantity weights on prices that were used before, the price index must outperform the target rate of change.

The price cap mechanism was used to regulate the recently privatized British Telecom. The target index is "CPI minus three"—that is, the average change in prices must not exceed the increase in the consumer price index, less three percentage points. The FCC price cap proposal for AT&T and for the BOC's interstate carrier access charges is roughly similar.

If a firm enters a new market, its prices there are ignored in the price cap formula. Its success or failure in the new market has no effect on prices in other markets. The firm has no means for using monopolized markets to subsidize new competitive ventures. Likewise, a firm has no incentive to respond to competitive entry by lowering price to retain market share unless it can still earn a profit in that market after doing so. Finally, a firm can profit from cost-reducing process innovations. These will not force it to lower its prices, for prices are not pegged to costs. Of course, profit maximization generally causes firms to lower prices after a cost-reducing innovation, even if the firm is a monopoly, but not by as much as cost-based regulation will demand. Hence, price caps create a greater incentive for cost-reducing innovation than does traditional price regulation.

The preceding discussion implies that regulators have discovered a pricing rule that resolves the enduring dilemma of economic regulation. If price caps really do cause firms to operate only in markets where they are efficient and to adopt only warranted new technologies (sharing the benefits with their customers), then DOJ's structural remedies are not necessary. Price cap regulation will produce the appropriate market structure automatically, and meanwhile regulators can find gainful employment implementing the price cap and thereby protecting against monopoly abuses in markets that are natural monopolies. Unfortunately, serious problems undermine this rosy scenario.

Price cap regulation works only if firms are absolutely sure that it will endure. If a firm believes there is a significant chance that the pricing system will collapse and revert to cost-based regulation, its investment and pricing strategies will reflect the necessity to position itself satisfactorily for the day when regulation is reintroduced. The workability of price caps depends on the credibility with which regulators can commit to a permanent, irreversible price cap system.

As a matter of law, neither regulators nor the Congress can make such a commitment. Congress can always pass new laws, and the next president can always appoint FCC commissioners who will adopt another pricing policy. But this argument, by itself, is insufficient to undermine the proposal. If price cap regulation is as good as the previous analysis suggests, it is difficult to see why anyone would ever want to change it once it has been adopted. In fact, however, price cap rules are likely to sow the seeds of their own revision.

One source of instability is the kind of price structure that emerges from a price cap system. Eventually, a firm subject to price cap regulation, like all firms with some form of market power, converges to prices that are Ramsey prices: prices go up in markets with inelastic demand and down in markets with elastic demand. This means two things.

First, customers with intense demand and no competitive alternatives pay higher prices, one group of which (if price caps are applied to local exchange carriers) is residential and small-business customers who want only ordinary telephone service. Despite its theoretical properties in welfare economics, this result directly contradicts the underlying political rational behind telecommunications regulation. For example, price cap regulation (untainted by the threat of a political backlash) would lead the BOCs to increase subscriber access charges and to make a compensating reduction in usage-based carrier access charges. This is the policy that the FCC correctly tried to adopt in the mid-1980s but was forced to pull back for residential users because of congressional opposition.

Second, Ramsey pricing gives regulated firms an incentive to find ways to segregate customers according to demand elasticities for the purpose of engaging in price discrimination. This violates the set of equity principles that motivate both economic regulation and antitrust. Moreover, it violates the precepts of optimal pricing in economic theory, for the departures from marginal costs will be more than the amounts necessary to recover total costs, thereby causing unnecessary losses in consumer welfare.

Social contract regulation provides a way to avoid the problems associated with Ramsey pricing. The key problem raised above is that fixing a price index is insufficient to control prices in a way that is socially desirable or at least politically demanded. The social contract explicitly recognizes this eventuality by placing additional constraints on the flexibility of the firm. It has at least three elements. First, it specifies price ceilings for specific, rather narrowly defined, services (for example, residential basic local service in cities of population 500,000 to 1 million). Second, it reserves for the regulator, rather than the firm, the right to define service categories (so as to control the degree of price discrimination). Third, it contains some provision to assure the company that it will not go bankrupt. The first two features solve the problem of the excesses of Ramsey pricing as perceived by political actors.

Another class of problems with price caps arises from the inevitable inaccuracy of the price cap formula and cannot be resolved by social contracts or any other known scheme. Any long-term pricing rule implicitly forecasts future costs as well as prices. That is, the formula must not be so strict as to bankrupt the firm nor so generous that eventually the price cap leads to monopoly pricing. But any price cap formula or any social contract that explicitly ignores costs is certain to lead to unacceptable profits. Technological change does not proceed smoothly year after year at the same rate but undergoes fits and starts as new technical ideas are discovered and exploited. So even a price rule that is on average correct for the long run will suffer periods in which it is widely off the mark.

If the price cap is too rigid, even for a few years, because costs are falling more slowly than was forecasted, the regulated firm will suffer declining profits, an inability to invest in new facilities, and, perhaps, bankruptcy. The social contract explicitly contains provisions committing regulators not to cause this to happen, but even if these provisions fail and profits fall below a normal, competitive return, the regulated firm has almost certain legal recourse. A binding legal constraint on regulators, enshrined in a series of Supreme Court decisions beginning in the nineteenth century, is that price regulation can not be used to expropriate capital. A pricing rule that causes the firm to earn less than the cost of capital—when competitive profits are readily available through an alternative pricing formula and when the firm has not engaged in any demonstrably wasteful or imprudent activities—is sure to be declared unconstitutional.

To protect against this outcome, a regulator seeking to make a credible long-term commitment to a price cap rule will set the formula generously. The rule will permit the firm to earn normal profits even in periods of slow productivity growth. While this formula is more secure against court challenges, it runs a different risk. When the firm does especially well, profits will soar. Politicians will be unable to resist the temptation to squeeze profits down.

As a case in point, consider the political reaction to the windfall gains that accrued to the oil industry as a consequence of the 1973 Arab oil embargo and the 1979 oil price shock following the outbreak of the Iran-Iraq War. It is not likely that the press, citizens groups, and elected officials would stand idly by while telephone company profits soared, especially if they would already have regulatory institutions that were statutorily responsible for controlling these profits.

In either case price cap regulation eventually leads back to rate-of-return regulation, either to reestablish a sufficiently remunerative price structure or to cut prices to restore normal profits. Of course, a firm is likely to anticipate that reregulation will transpire if its profits soar and will voluntarily hold down profits. For example, if price caps were imposed on BOCs, they would probably make massive investments in enhancing the network to position themselves for demand for new services and to keep rates of return down. But this is just another form of rate-of-return regulation, where the profit ceiling is self-imposed, based upon the firm's abilities in market and political forecasting. Price caps combined with a social contract lead eventually to residual pricing because the basic services that are separately capped simply become the focus of the price changes when reregulation takes place. This system increases the incentives for cost reduction, since firms keep their cost savings during the interregnum between changes in the formula, but these new regulatory methods do not cause these savings to flow to price reductions rather than investments in new capabilities.

Regulators practice rate-of-return regulation not because many decades ago they derived the wrong solution to a problem in intertemporal incentive compatibility, but because the American legal system forces de facto rate-of-return regulation whenever government engages in price controls. Government can close companies only if they engage in illegal activities or create a public nuisance or hazard. The government can not tolerate high profits in highly visible, infrastructural industries. Price caps and social contracts do not offer an escape from these constraints on economic policymaking. The FCC has concluded as much: it is proposing procedures to adjust the price cap in the future, in light of new data about costs, profits, and competition.

The problems described here apply to the relatively long run: price caps and social contracts might last several years without adjustments, and in some cases that may be sufficient. Specifically, if an industry becomes structurally competitive, economic regulation grows increasingly unnecessary as competition becomes more robust. Thus, if deregulation owing to durable competition is the likely policy outcome within a decade, price cap regulation is an attractive penultimate step toward that end. While competition gains a toehold, price caps eliminate most of the perverse incentives and advantages of the regulated incumbent and so hasten the arrival of full competition and complete deregulation. They also protect regulators and politicians from the risk of politically unacceptable price increases while the dominant firm still has market power.

This implies that price caps make more sense for AT&T than for the BOCs. With the arrival of equal access for long-distance competitors, all of AT&T's products and services now operate in markets that are at worst oligopolistic. Price cap regulation (with some additional protections against politically unacceptable moves toward Ramsey discrimination) makes sense as a means of regulating AT&T for the early years of the 1990s, with the view that competition will make all regulation of manufacturing and interstate services obsolete within a few years. Unfortunately, the FCC does not appear to view price cap regulation as a temporary phase before deregulation but, at least for the BOCs, seems to regard price caps as permanent.

The local service monopoly for residential and small-business customers may also wither away, but this is more problematic and further in the future. Even if technology could provide a competitive local service market, regulators are likely to be sluggish at best in allowing competition. Indeed, they have actively worked against every competitive option, beginning with the sacrifice of local competition in the early 1900s on the altar of AT&T's long-distance service and continuing most recently with adverse regulatory decisions about radio telephony and telecommunications services on cable television systems. It is possible that none of these alternatives were technically and economically suitable for a competitive alternative; whatever the case on these issues, policymakers, not technology and economics, are determining who shall compete with whom.

If price caps and social contracts for BOCs are likely to require periodic adjustments, we are back to our fundamental pricing policy dilemma. To the extent these reforms create long delays between standard rate-of-return reviews, they make firms more efficient, but they do not eliminate the firm's incentives to remain a monopolist and to take risks in creating new services beyond those that are economically warranted.

Structure

The overriding structural issue of the 1990s is when the BOCs will succeed in obtaining relaxation of the line-of-business restrictions that were imposed upon them by the MFJ. The BOCs want all restrictions removed. They would like to be allowed to manufacture their own equipment, to provide long-distance service, and to enter information services. In short, they would like to have the ability to reestablish a structure that parallels the old AT&T.

Regulators largely agree with them. State regulators agree because the old structure succeeded in holding down basic service prices, which are the ones that count politically in state legislatures. Greater BOC integration, with each becoming a regional monopoly that parallels the old national AT&T means greater control for the state regulators. This in turn means better opportunity to maintain subsidized prices for basic local service in small communities.

Federal regulators prefer relaxing line-of-business constraints in part because the court's rules poach on the FCC's jurisdiction. Beyond this the FCC has always thought that it can regulate the industry (save for a few years in the late 1970s). This view has been enhanced by the price cap proposal. Perhaps most important, however, is the fear of error on the issue of information services. The federal government is responsible for the overall economic health of the country, and many intelligent people believe that by the twenty-first century sophisticated information services, provided through a national network of remarkably enhanced capability, will be a cornerstone of an advanced, high-income society. Reintegrating the BOCs seems likely to produce such a network, whether the vision about its value is true or false. To a policymaker the risk is a few tens of billions of sunk costs that can always be covered by higher prices for ordinary telephone service. But the risk in retaining structural separation is going down in history as the idiot who sunk the American economy by sticking to an incorrect economic theory of the optimal structure of a partially regulated industry.

The hopes of the FCC and procompetitive state regulators for escaping the anticompetitive consequences of their structural policy are pinned on Open Network Architecture (ONA), in addition to new methods of regulating prices for basic telephone service. ONA is a logical extension of the equal access provision of the MFJ. It would require that BOCs fully reveal the technical details of their local exchange networks, including the software in the switches. They would then offer the use of network functions to their competitors at the same price and on the same conditions as they are available to BOC affiliates. This would give all competitors the same capabilities that the BOCs would have for using the local network to provide all types of services. With ONA competitors and regulators need not fear that the BOCs will have unfair advantages if they are permitted to enter competitive markets.

ONA would require two types of regulatory controls, at least initially. The first would be a decision about the technical functions required to be built into the network, the Basic Service Elements (BSE). The nature of the BSEs would be negotiated among industry participants and ultimately decided by regulators. Because enhanced services are likely to be offered by national firms operating in numerous markets, ONA is likely to be more efficient if the BSEs are uniform. The most sensible place for these regulatory decisions is the FCC. At the same time, some states and their BOCs may want to experiment with additional, novel offerings. Permitting them to do so has potential benefits, as long as it does not interfere with the BSEs and the procompetitive purpose of the ONA requirement. Hence, FCC regulation of ONA technology is likely to consist of minimum functional requirements and the protocols for using them.

The second regulatory issue concerning ONA is pricing the BSEs. Again, if interstate firms offer nationwide services based on the BSEs, the FCC will want to assure that BSE prices are nondiscriminatory and procompetitive. Since BSE prices will determine the division of market shares for new services between the BOC local network and private alternatives, problems may arise regarding cross-subsidization among BSE elements and between ordinary telephone service and enhanced services. Conflicts are likely to emerge between procompetitive federal policy and state residual pricing policy. Most likely, this will lead to FCC regulation of BSE prices as well as technical requirements.

The ONA proposal has two major problems, either of which can be fatal. The first is whether it is reasonable to expect that ONA can be implemented. The BOCs have no incentive to make it easy for their competitors to understand the local network as well as they do. They will have an incentive to make their own equipment, rather than buy it from competitors, and to gain an informational advantage about the technology of the network. Inevitably, questions will arise as to whether the BOCs have evaluated competitive equipment fairly and have fully and comprehensibly disclosed how their systems operate. Moreover, the timing of disclosure in relation to developing, testing, and implementing system changes creates a dilemma. Late disclosure gives BOCs a temporary advantage, which can become permanent if system changes, like software programming, are frequent. Early disclosure can eliminate the incentive of BOCs to innovate at all.[13]

The second problem is that ONA will be effective only if state regulation removes the perverse incentives of price regulation as currently practiced. If state regulators continue to protect local BOC monopolies, such as in intraLATA toll, to generate maximal subsidies for rural telephone service, ONA will be insufficient to assure the success of the FCC's procompetitive policies.

For these reasons ONA is at present a weak basis for permitting elimination of line-of-business restrictions. At best it is a promising technical development that might form the basis of a revised structural policy. At worst it is a bottomless pit of unresolvable conflicts among regulators, antitrust authorities, and participants in the industry. Optimism concerning ONA seems unwarranted, at least for many years.

Perhaps the most interesting recent policy development is the reversal of field by DOJ. Only three short years after breaking apart AT&T, DOJ proposed to let the BOCs reintegrate along the lines that the BOCs proposed. DOJ defended its reversal with a new argument. DOJ argued that it had no interest in whether regulated monopoly prices were too high and were subsidizing competitive offerings. The problems in regulated local service markets were on the backs of state regulators. As long as prices were low in competitive markets, where DOJ has jurisdiction, the antitrust authorities were happy. This is the new federalism carried to extreme: the government closest to the people should be given primacy even when its policies are patently harmful to its own constituents.

What is missing from the debate about line-of-business restrictions is a focus on establishing criteria for their elimination that are consistent with their original rationale. The basis of the restrictions is a belief that a bottleneck regulated monopoly will distort any competitive market that it is permitted to enter. Hence, the criteria for entry by a BOC should depend on: whether it remains a bottleneck monopoly; whether the methods of regulating it create the same perverse incentives that gave rise to the arguments for divestiture; and the robustness of competition in the market it intends to enter. There is relatively little to fear if the BOC is likely to become a monopolist by dint of superior performance in the market it is entering or if the BOC has little leverage from its regulated monopoly to the new market. The latter occurs when the two markets are too disconnected or when any attempt to exercise its power would be so blatantly obvious that it would bring the immediate wrath of antitrust authorities.

Once one relaxes the constraints in this way, several points become apparent. First, the current terms of the debate are largely irrelevant because they focus on the wrong units of analysis: all BOCs and broad categories of the industry (equipment manufacturing, long distance, and information services) that incorporate a wide variety of different types of markets, which are likely to be differentially susceptible to anticompetitive actions by BOCs.

Second, a key to relaxing all line-of-business restrictions is the degree to which competition can be introduced into local exchange service. If new technologies or Open Network Architecture really do make competition workable for essentially all customers, line-of-business restrictions are unnecessary. If local competition is feasible, it is likely to be introduced at different times in different places, partly because of differences in state regulation and partly due to differences in local market structures. Moreover, the federal government will play an important role in deciding how fast it is introduced because the FCC controls many of the promising technical possibilities and because the criteria for relaxing line-of-business restrictions will remain a federal responsibility (either with continued judicial oversight or through reversion to the FCC). The latter can be used to create incentives for BOCs and state regulators regarding their attitudes toward local competition. Specifically, appropriate criteria for relaxing line-of-business restrictions can provide a carrot for BOCs to hasten viable local exchange competition to enable them to reintegrate or otherwise to enter competitive markets.

Conclusions

Telecommunications regulation in the 1990s is likely to look like telecommunications regulation in the 1970s and 1980s but very little like it did for the prior twenty years. The genie of competition has been set loose from the bottle and is unlikely ever to be squeezed back in. But the basic conflict between the virtues of an integrated, ubiquitous monopoly and the advantages of unregulated competition will remain and so continue to pose the basic dilemma of regulation: which risks should be taken?

It is still too soon to evaluate definitively the radical telecommunications policy changes of the 1970s and 1980s. Even if they prove to have been correct for 1980, newly emerging technologies may make them inappropriate for the 1990s and beyond. The error can be in either direction: fiber optics, information services, and Integrated Services Digital Network (ISDN) may drive us to a reintegrated monopoly; or they, along with ONA and radio telephony, may drive us to competing integrated suppliers of both services and equipment.

Pending issues in regulatory policy provide little help to get us safely to the year 2000. New methods of price regulation may have worthwhile features, but they are not a panacea. They do not eliminate the perverse incentives that regulation gives to firms in a regulated industry. Consequently, regulators can not abandon control of the price structure if they hope to encourage economical, warranted competition. Likewise, they cannot abandon concern about discriminatory acts and self-dealing simply because regulatory pricing rules provide better incentives for cost reduction. If some form of price cap is to be applied to the BOCs, it should not include monopoly and competitive services in the same index.

The debate on structure remains too general and unfocused to produce a sensible set of criteria for deciding where and when to let the BOCs enter new markets. Only in hushed tones do public officials now dare ask the most fundamental question: under what conditions will it be possible and desirable to declare an end to the era of economic regulation of AT&T and, ultimately, of local telephone companies?

A decade ago the Civil Aeronautics Board gamely mapped the strategy for its own demise. The plan required a slow death because gradual deregulation played to the risk-averseness of political actors. It is time to contemplate such a plan for the FCC's Common Carrier Bureau. Such a plan would involve adopting price cap regulation for AT&T and actively promoting competition in markets dominated by the BOCs, including basic local service. In turn, this would require

FCC assertion of jurisdiction over the technical characteristics and tariffs for ONA to prevent their use for anticompetitive purposes by many states. The immediate effect of these actions would be to expand the role of the FCC but the long-term purpose would be to create conditions under which eventual deregulation could take place. Perhaps such a plan will be unwise. But developing it is a useful exercise to focus attention on the long-term context to frame current policy debate.

Regardless of the ultimate vision of the industry that may unfold, the FCC's course needs correcting. Its structural policies are inconsistent, and its long-run view of price caps and ONA as a permanent solution to long-standing problems of telecommunications regulation is unrealistic. Change is also needed at DOJ. An ideological commitment to federalism in the telecommunications industry provides no useful policy insights. And it certainly makes no sense to restructure the industry every three years, as DOJ has blithely proposed.

The federal government should assert as much control as the courts and Congress will allow over the industry. Because of the important contribution of telecommunications to other industries, the federal government should not tolerate state policies that sacrifice an efficient telecommunications sector on the alter of a crude system of cross-subsidies. Of course, not all states will do this, so the FCC need not take away all authority. Instead, the FCC could establish minimum criteria for state regulation of prices and entry, but permit procompetitive, efficiency-oriented states some latitude to complete details and to experiment with new services and novel regulation methods.

If history is a guide, telecommunications policies will continue to change whenever new faces are in place. History also warns that consistent policies based on a coherent long-run vision of the industry emerge rarely and do not predominate for long. We should therefore be wary of regulatory proposals that require decades to be effective. Perhaps this is a good reason not to be sanguine about a long-term FCC plan to achieve eventual deregulation. Nonetheless, one advantage of promoting competition, deregulating, and respectfully burying the Common Carrier Bureau is that if it works, the policies will last.

Fragmentation of the Telephone Network

Robert W. Crandall

For years the debate over the regulation of the telephone network centered on the question of economies of scale and scope in the provision of telephone services. Admitting competitive entry or breaking up American Telephone & Telegraph (AT&T), it was argued, would sacrifice the network economies realized by one national telephone carrier.[1] The proponents of competition in interexchange services and terminal equipment countered by arguing that perpetuating the AT&T monopoly would limit new service offerings and slow the rate of technological improvement in the industry.

Competition in interexchange services, value-added services, and terminal equipment is now a reality. AT&T has been broken up, presumably never to be reassembled. Nevertheless, much of the current debate on telephone regulation continues to focus on the mundane services that were the bread and butter of AT&T's plain old telephone service (POTS) monopoly twenty years ago—namely, local and long-distance switched message services. To hear this debate one would think that the guiding principle in telephone regulation should be whether the average residential subscriber, the average poor subscriber, or the average elderly subscriber has to pay more or less for a mix of local and long-distance calls. The discussion virtually ignores the fact that telephony has grown to be much more than POTS and that the impact of telephone service on economic welfare turns on much more than the price of local or long-distance services for residential subscribers.

In this essay I analyze the development of the telephone network since the introduction of competition in the 1970s. The consumer's direct share of expenditures in total telephone services has been falling steadily, and telephone services are increasingly being provided off the traditional regulated telephone company network by specialized or private business networks. This fragmentation began in earnest in 1976 as "interconnection" of nontelephone company terminal equipment to the network was finally forced by Federal Communications Commission rulemaking and court decisions. Businesses have fled the network to obtain telecommunications services more carefully crafted to their needs and to avoid uneconomic rates charged by regulated carriers. Unfortunately, these rate distortions appear to be continuing as politically sensitive state regulators resist federal pressures for more rational pricing of residential service.

The Regulatory Distortion of Telephone Rates

The regulatory decisions of the 1960s and 1970s provided the opportunity for the development of telephone services not provided by the telephone company.[2] Federal and state regulators allowed telephone rates to deviate substantially from costs for political reasons, attempting to suppress the cost of local residential service, particularly in rural areas. By the late 1970s these rate distortions had become significant.

The distortions in rates took several forms. First, beginning in the 1940s, a share of the fixed (non-traffic-sensitive) costs was assigned to interstate long-distance services through a "separations and settlements" process. At first the percentage of these costs assigned to interstate services was only the share of total minutes of use accounted for by such calls. In the 1950s and 1960s, however, the formula was adjusted to allow a larger and larger share to be shifted from the local rate base to interstate jurisdiction. By 1981 this interstate share —referred to as the "subscriber plant factor"—would grow to 27 percent, or more than three times the share of total calling minutes accounted for by interstate calls. As a result, interstate long-distance calls were being priced substantially above their incremental cost, and access to the network was being offered at a monthly rate that was presumably far below its full cost.

A second form of distortion in ratemaking involved AT&T's use of uniform distance pricing in interstate long-distance services. With implicit FCC approval AT&T set its long-distance rates to reflect the distance called but not the density of a route, despite the fact that the cost of a call was inversely related to call volume on the route.

A third form of distortion was the lack of usage-sensitive pricing in local tariffs. Not only was the price of access set too low, but it generally entitled subscribers to make or receive calls in a relatively wide local area without incurring usage charges. Thus, local calls were underpriced, especially during peak calling periods.

Fourth, neither the FCC nor the state commissions could accurately separate the joint and common costs of services. As the number and variety of services expanded, this inability became more and more noticeable. Rates did not reflect the relative costs of individual services. Indeed, the cost of individual services was only an issue when a customer—such as a television network—objected that his rates were too high. Until 1960 the FCC rarely inquired into the issue of rate structure, preferring to regulate by employing a rate-of-return criterion for the overall reasonableness of rate levels.

Finally, the use of rate-of-return regulation has undoubtedly distorted incentives among regulated carriers. For more than twenty-five years economists have been arguing that rate-of-return regulation has undesirable effects on the regulated firm's input choices and its incentives to reduce costs, but this warning has gone unheeded.[3] Moreover, this form of regulation may have been responsible for the carriers' tenacious decisions to retain their own equipment-manufacturing subsidiaries, since the carriers could avoid the strictures of regulation by purchasing from unregulated subsidiaries.

The Effect of Rate Distortions Upon Entry

The entry by Microwave Communications, Incorporated (MCI) and other new common carriers (OCCs) into interexchange markets in 1969 was invited by the rate distortions created by regulators during the 1960s and 1970s. By assigning a substantial share of the non-traffic-sensitive costs of local exchange companies' plant to interexchange service, regulators were able to mitigate the effects of inflation on the monthly local access charge, particularly to residential consumers, but they drove a substantial wedge between the price and cost of long-distance service.

As long as entry into switched interexchange message service was forbidden, the distortions in rates caused by the separations and settlements process were not obvious to the public—even though its effect upon economic welfare should have been quite apparent to anyone familiar with the price elasticities of demand for local and long-distance service. To MCI the distortion was inviting. The revenues available from long-distance service—particularly from the densest routes—were far in excess of the costs of that service, as long as MCI did not have to divert part of its revenues to the local companies as settlements using their local loops to originate and terminate their calls. Moreover, MCI initially was able to use these local circuits at a fixed monthly cost that did not reflect the intensity with which MCI used them.

Because the local telephone operating companies were not equipped to provide the new long-distance carriers with the same quality of connections as those provided AT&T, the FCC initially negotiated access fees for connecting OCC calls that were only a fraction of the costs assigned to AT&T for using local-company circuits to originate and terminate long-distance calls. These lower access charges undoubtedly created an artificial incentive for OCC growth at the expense of AT&T.

The regulatory distortion in access charges for the new interexchange carriers relative to AT&T was largely ended by the decree that divested the Bell Operating Companies (BOCs) from AT&T. Under that decree the BOCs were forced to install "equal access" in the central-office switches of their largest exchanges. This conversion is now largely complete with about 80 percent of the nation's switches offering equal access.

With the AT&T divestiture in 1984 the settlements pool was replaced with a formal system of access charges. The new access charges were the same for AT&T and the new OCCs for equivalent circuits, but these charges continued to reflect the large share of local non-traffic-sensitive plant costs that were built into the previous settlements process. Now, however, the subsidies flowing to local service are quite explicit and open. More important, the OCCs, facing the same high access charges as AT&T, are more likely to try to bypass the local companies if alternative connections can be found that are less expensive. Even AT&T now has some incentive to seek bypass facilities, although the method of calculating current access charges makes AT&T less likely to seek bypass than its smaller rivals.[4]

The FCC Adjustment to Competition and Divestiture

The FCC now recognizes that the attempt to pay for local service by imposing a tax on long-distance calls is welfare-reducing and fraught with the danger of inducing inefficient bypass. As a result, it has moved to impose "subscriber line charges" (SLCs) on subscribers to defray part of the cost of the local circuits now allocated to interstate interexchange service. These SLCs currently range up to $6.00 per month for business lines and are equal to $2.60 per month for residential lines. The revenues from these charges have permitted the FCC to reduce interstate access charges for long-distance calls by approximately one-third.

The FCC has also attempted to reduce the inefficient cross-subsidization of local service by interstate long-distance calls by capping the share of local companies' non-traffic-sensitive costs allocated to interstate calls. This share is scheduled to decline from 27 percent to 25 percent within eight years.

These two regulatory changes—imposing subscriber line charges and capping the interstate share of local plant costs assigned to interstate calls—have placed substantial pressures on state regulators. There is no longer an increasing pool of interstate revenues to defray local operating company costs. Moreover, subscribers recognize that subscriber line charges increase the cost of access to the telephone network. That interstate, long-distance rates are falling rapidly is little solace to state regulators who cannot claim credit for such reductions.

The effect of these changes may be seen in changing telephone rates. The Bureau of Labor Statistics has published Producer Price Indexes for telephone services that reflect the rates received by the telephone carriers (table 1). Since 1982, the year in which the divestiture of AT&T operating companies was announced, the annual rate of decline in inflation-adjusted interstate rates has accelerated. The annual rate decline in real message toll service (MTS) long-distance rates has been nearly 7 percent since 1982. By contrast, inflation-adjusted local rates have risen by 4 percent per year since 1982, and real intrastate MTS long-distance rates have fallen by less than 2 percent per year in the same period.

State regulators are no longer insulated from reality by the increas-

Table 1 Annual Rate of Change in Real Telephone Rates 1972–87 (percentage)

Period	Interstate MTS	Interstate WATS	Intrastate MTS	Intrastate WATS	Local Residential	Local Business
1972–82	−3.5	−5.4	−3.9	−3.6	−2.9	−2.8
1982–87	−6.8	−5.8	−1.6	−3.9	+4.2	+3.9

Source: BLS, Producer Price Indexes, deflated by BEA Implicit GNP Deflator.

ing flow of subsidies from interstate calls (increasingly reflecting business usage) to local service, particularly local residential usage. This is not to say that local rates are close to the true costs of access, but that the gap between these costs and local rates is narrowing. To hold off a residential ratepayers' revolt against them, many state regulators have clung doggedly to the overpricing of intrastate calls by forbidding entry into intraLATA (Local Access and Transport Area) service and erecting high access charges for intrastate interLATA calls.[5] For these reasons the rates for intrastate MTS have declined much more slowly since 1982 than in the previous decade—just the opposite for interstate rates.

State regulators have also managed to keep rural rates below urban rates despite the reduction in interstate subsidies. Moreover, business rates have been kept above residential rates in most jurisdictions.[6]

Table 2 shows the relative increases in residential and business rates between December 1980 and December 1987 for Bell Operating Companies. Residential rate increases reflect the increase in the lowest available monthly access rate, measured or flat. Rates are shown for the largest exchanges and smallest exchanges in each state—proxies for urban and rural rates, respectively.[7]

Business rates in the smaller exchanges appear to have risen a little more rapidly than residential rates, and rates in the smallest exchanges have risen much more rapidly than rates in the largest exchanges. This trend suggests that the cross-subsidization of rural areas from urban rates is declining but that the subsidies flowing from business to residential rates are not declining.

The reason often offered by state regulators or consumer advocates for keeping residential access rates low by overpricing local business access and intrastate toll is the promotion of "universal service." Unfortunately, this explanation for the cross subsidies rings very

Table 2 Average Monthly Rates for Bell Operating Companies, 1980 and 1987 ($/month)

	December 1980	December 1987	Percentage Change
Smallest Exchanges			
Residential, Flat Rate (n = 48)	6.71	13.71	104.4
Business, Flat Rate (n = 45)	14.10	31.47	123.1
Business, Measured Rate (n = 32)	11.10	22.08	98.8
Largest Exchanges			
Residential, Flat Rate (n = 49)	9.88	16.26	64.5
Business, Flat Rate (n = 43)	25.52	40.00	56.7
Business, Measured Rate (n = 35)	12.53	22.30	77.9

Source: NARUC.
Note: Averages are weighted averages using the population in metropolitan areas and nonmetropolitan areas in each state as weights (n = number of states in sample).

hollow because the demand for residential access is extremely price inelastic, particularly among middle and upper income households.[8] The more believable explanation is that regulators find it easier to pass on the costs of local access through business customers or toll charges.

Regulated Rates and Private Networks

A large share of toll service is accounted for by business customers who now have alternatives to the use of common carrier network services. Once terminal equipment was deregulated in the mid-1970s and private firms were free to construct their own transmission and switching facilities, large- and even medium-sized firms could begin to erect their own systems so as to avoid overpriced common carrier services. Attempts to overprice business services are much more likely to induce a shift of patronage away from common carriers than the overpricing of residential services.

The decree divesting the Bell Operating Companies from AT&T was constructed on the premise that long-distance service would soon be offered in an unregulated, competitive market. Unfortunately, neither the FCC nor most state commissions have moved to deregulate long-distance service. The FCC continues to regulate AT&T's interstate rates under its "dominant carrier" policy, and most states still see intrastate toll as a lucrative source of subsidies for local service.

The FCC now appears to be on the horns of a dilemma. If it attempts to continue to regulate interstate toll rates, it will be caught in endless battles between AT&T and its new competitors with no concrete basis upon which to resolve them. It cannot reasonably expect to measure AT&T's costs for different services to various customers with sufficient accuracy to set rates efficiently. On the other hand, it cannot attempt to deregulate AT&T at this juncture without creating a political backlash generated by AT&T's competitors and some user groups.

The FCC is attempting to resolve this dilemma by imposing "rate-cap" regulation on AT&T that would absolve the commission from the responsibility of setting cost-based rates. AT&T would be allowed to raise lower rates within a band of reasonableness, but the increase in rates for any service could not exceed the rate of inflation, less 3 percent. The rate cap proposal has not been implemented yet and may fail to gain sufficient political support to be finalized.

Price-cap regulation is at best a transitional policy on the road to fuller deregulation. If the FCC and state commissions are unable to proceed to full deregulation of long-distance services, they will find themselves continuing to regulate rates without any basis for determining their reasonableness. Even with price caps there will be rettrospective reviews of carrier performance. As a result, rates will still be influenced by political pressures on regulators who are responsible for assuring that rates are "reasonable."

The Growth of Common Carriers

After the mid-1970s, the growth in telephone company-supplied telecommunications services began to slow. The Department of Commerce measure of Gross National Product (GNP) originating in the telephone and telegraph industry (strictly the common carriers) grew by 8 percent per year between 1961 and 1976, slowed to 7 percent annual growth between 1976 and 1983, the year before divestiture, and then plummeted to less than 1 percent per year after divestiture.[9]

Much of the decline in the growth of common carrier output is to be found in local services. In 1984 Bell Operating Company equipment was detariffed. Moreover, real local rates rose by more than 20

Table 3 Annual Growth in Common Carrier Output and Telephone Rates 1972–1986

	Output*			Consumer Rates**	
	Local Service	Interstate MTS	Interstate WATS	Local Service	Interstate Toll
1972–83	5.4	7.2	18.5	−2.5[a]	−5.0[a]
1983–86	−6.7	9.8	5.1	+6.9	−7.8

* Author's estimate from FCC, Statistics of Communications Common Carriers; USTA, Telephone Statistics; and company reports.

** CPI for each service deflated by CPI-U; Source: Bureau of Labor Statistics.

a. 1977–83.

percent between 1983 and 1986, while real interstate toll rates fell by 20 percent.[10] The rise in local rates and the loss of customer premises equipment (CPE) revenues have clearly reduced the common carriers' output of local service, as shown in table 3.

Growth has not slowed in switched interstate message telephone service. Competition and sharp rate reductions have caused this market to grow even more rapidly in the 1980s than in the previous two decades. Fueled by the growth of the new interexchange carriers (OCCs), WATS and interstate MTS have grown by more than 10 percent per year since divestiture.

MCI was first authorized to provide interstate private line service in 1969. MCI's growth was retarded at first by its difficulty in gaining adequate connections to local subscribers and its lack of success in attracting large business customers. As the quality of its services improved and the BOCs moved toward equal access, MCI and the other OCCs expanded rapidly. As a result, the OCC share of total telephone output was inconsequential until the 1980s, accounting for less than 5 percent of interexchange revenues and perhaps 2 percent of all telephone output. Today, the OCC share of interLATA interexchange services is about 30 percent, and their share of all common carrier telephone services is about 7 percent.[11]

The Growth in Private Networks

The changes in the structure of the telecommunications sector are not limited to the growth of OCCs in the interLATA interexchange market nor to residential customers' ownership of mundane consumer

Table 4 Examples of Large Private Business Networks 1986–87

Organization	Number of Access Lines
General Motors	250,000
Boeing	70,000
McDonnell Douglas	54,000
University of California	13,000
Merrill Lynch	17,000
Westinghouse	180,000*
Bank America	> 10,000
Sears	> 10,000

Source: Data for General Motors through Merrill Lynch from Huber Report, table IX.22; those for Westinghouse-Sears are from *Communications Week*, February 22, 1988, Closeup Section.

* Estimated.

premises equipment. There are no data on the output of telephone services from nontelephone company sources, but there is substantial evidence that entities other than telephone companies are now buying a very large share of the equipment required to produce these telecommunications services. These data include anecdotal information on the large private networks now in existence (table 4) plus the data on the flow of investment expenditures on telecommunications equipment.

The Department of Commerce publishes annual estimates of investment levels and capital stock in the telephone and telegraph sector.[12] These data reflect the departments's allocation of total outlays for capital equipment and construction spending in the economy among the various consuming sectors. Telephone and communications equipment are allocated to the "Telephone and Telegraph" sector on the basis of historical procurement patterns; construction data are obtained from census surveys of construction activity. These estimates are roughly consistent with the capital expenditures reported by all telephone companies, long-distance carriers, and Western Union until about 1975 (table 5).[13] Thereafter, the Department of Commerce data begin to rise substantially more rapidly than the telephone industry capital expenditures data. This divergence reflects the much more rapid growth in the procurement of telecommunications equipment by firms other than telephone common carriers. By 1986 more than one-third of all U.S. spending on capital facilities for telecommunications was by individuals and by firms other than communications common carriers.

One might think that this growth in nontelephone company owned equipment occurred simply because of the transfer of consumer premises equipment to residential subscribers, but this is not a persuasive explanation for a number of reasons. First, the divergence between telephone company investment and total communications capital spending began in 1976 and was very large by 1983, even before detariffing of CPE. Second, the divergence in 1986 was $13.5 billion, or about seven times the value of the shipments of telephone sets to all customers, including businesses.[14]

Much of the increase in U.S. nontelephone company equipment spending is for such items as light transmission equipment (fiber-optics, etc.), point-to-point radio equipment, satellite equipment, and central-office equipment (table 6). The central-office equipment surge is clearly related to the AT&T consent decree's requirement that the divested Bell companies provide equal access to interexchange carriers. This surge is now largely over. But the other categories of transmission equipment—reported in SIC 36621 (communications systems, except broadcasting)—are undoubtedly bolstered by private network purchases. Firms other than telephone common carriers are now building networks at a very rapid rate with this equipment.

There can be little doubt that the AT&T divestiture has contributed to the growth in these new private facilities. AT&T itself now has the incentive to sell to customers building facilities that bypass local exchange companies. Moreover, nearly one-third of the divested BOCs'

Table 5 Telephone Common Carriers' Share of Total Capital Formation in Telephone and Telegraph, 1970–86 (billions of current dollars)

Year	Common Carrier Capital Expenditures*	Total Investment in Telephone and Telegraph**	Ratio
1970	9,361	8,835	1.06
1975	12,833	12,683	1.01
1980	23,315	26,081	0.89
1986	26,348	39,829	0.66

* Author's calculations.

** U.S. Department of Commerce data for equipment and structures in Telephone and Telegraph.

Table 6 Apparent U.S. Consumption of Communications Equipment 1978–82

	1978	1982	1986	Percentage Change 1978–86
SIC 3661				
Switching Equipment (including PBX)	3.2	4.3	7.2	+125.0
Telephone Sets	0.9	1.2	2.0	+122.2
Other Telephone and Telegraph Equipment	3.7	5.6	5.5	+48.6
SIC 36621				
Communications Systems (except broadcasting)	3.7	6.2	9.4	+154.0

Source: U.S. Department of Commerce, Bureau of the Census, Current Industrial Reports, MA36P.
Note: Apparent consumption equals domestic shipments plus imports minus exports.

equipment purchases have moved away from AT&T to competitive equipment suppliers in the United States and abroad. This has created a much more efficient, dynamic market for telephone and communications equipment.

The Current Policy Debate

Most of the current policy debate in telephone regulation concerns the repricing of access to the network, the appropriate form of common carrier regulation of AT&T or of local operating companies, the role of competition in intrastate markets, and the appropriate domain of the divested RBOCs. These issues have sprung up in large part because of AT&T's divestiture of the BOCs.

The underlying theory of the AT&T case and the divestiture that settled it was that the local exchange is a bottleneck facility from which the local exchange carriers may monopolize otherwise competitive markets for terminal equipment or interexchange services.[15] The BOCs were divested from AT&T so that AT&T would not be able to use these local facilities to attempt to monopolize equipment and long-distance services. By the same line of reasoning the divested Bell operating companies are now forbidden to manufacture equipment or to offer interLATA interexchange services.

Under the theory of that AT&T decree interLATA interexchange service is potentially a competitive market. As long as all carriers have equal access to local exchange company circuits, it should be possible to begin to deregulate AT&T. Moreover, AT&T and its rivals are free to pursue connections other than those offered by the local exchange carriers for terminating their calls. Unfortunately, the regulation of interstate rates continues, providing distorted signals to the interexchange carriers due to the allocation of a large share of non-traffic-sensitive costs to interLATA interexchange access charges. Moreover, proposals to loosen the regulatory grip on AT&T by substituting rate caps for formal rate-of-return regulation have created considerable controversy.[16]

The disputes over regulated market boundaries may be even more serious. At present many state commissions are eager to see the line-of-business restrictions in the AT&T consent decree continue, and many of these commissions continue to restrict entry into intrastate markets, so as to perpetuate the cross-subsidies carefully built into their rate structures in response to political pressures. But there is no natural division between local and interexchange services, basic or information services, or intra- and interstate services. Large users of communications have diverse needs for connecting a variety of diverse points in a communications network, and uneconomic pricing decisions or artificial market boundaries justified by the politics of regulation are only likely to dissuade these large users from using regulated, common carrier services.

Consumer Costs Versus Business Costs

Much of the attempt to continue uneconomic ratemaking practices and limitations on competition derives from an artificial notion that benefits to "business" users are not realized by consumers. Obviously, very little of the business use of the communications network is undertaken for the sole benefit of business executives or their stockholders. Downstream uses of communications in competitive markets result in a transmittal of these communications costs into prices of their goods or services. Telephone common carrier expenses account for roughly 2 percent of the cost of all consumer goods and services in the economy.

The reduction in the price of business calls (particularly interstate toll calls) has reduced the costs of travel services, banking services, stock-brokerage services, and a number of other goods and services. Manufacturers have made increasing use of sophisticated inventory-control and order-booking systems that require a substantial amount of communications services. Retailers use point-of-sale terminals to monitor sales, reduce bookkeeping costs, and control inventories. These goods and services are used in turn by consumers of all income classes and demographic groups. Since 1975 the business share of common carrier revenues has risen from 50 to 60 percent while the share of total telephone services now residing in private networks is surely more than 25 percent and perhaps as much as 33 percent.

This data suggest that consumers now account for 30 percent or less of all telephone services. Given this fact, it is surprising that little attention has been given to the full economic welfare implications of more rational pricing of telephone common carrier services. Most analyses of repricing simply examine the implications of raising the price of access to residential users while lowering the price of interexchange services.[17] These analyses tend to show a beneficial effect of repricing on overall economic welfare because the price elasticity of interexchange service is greater than the price elasticity of demand for local access. But detractors make a successful political argument when they offer the obvious observations that those residential consumers who make limited interexchange calls are worse off while those with a large share of long-distance calling are better off from raising the price of consumer access and lowering interexchange carriers' access charges. They totally ignore the business uses of telecommunications, which today account for at least 70 percent of all telecommunications use.

A more complete analysis would examine the implications of lower interexchange access charges and fewer arbitrary regulatory boundaries between vendors on the cost of a variety of business services and the ultimate effect of the resulting cost reductions on the prices of myriad consumer goods and services. This analysis would include the effects upon more efficient technical choices by business users who no longer face uneconomically priced common carrier services.

Other Common Carrier Regulation

It is remarkable how the current developments in telecommunications mirror those in other regulated industries in which rates have been distorted but uneconomic entry is permitted. For instance, common carrier rates in surface transportation have been regulated for more than a century. This rate regulation has led to substantial distortions in commodity rates. However, many shippers have had alternatives to common carriers in the form of their own private carriage or contract carriers. As a result, many have chosen to provide their own transportation services even though their private-carriage costs were above those of the common carriers. Partial deregulation of rail rates and almost total deregulation of trucking rates in 1980 have led to reduced private carriage costs because shippers no longer find that these uneconomic choices minimize their private costs.

Similarly, many shippers have found it desirable to own their own ships in the U.S. coastal trade because of the high costs imposed by U.S. maritime regulation on common carriers. Regulation of interest rates paid by banks and savings and loans to subsidize home mortgages led investors to move their deposits to other institutions once money-market instruments were legalized. The regulation of natural gas led to diminished supplies of gas and a substitution of oil for natural gas in the 1960s and early 1970s. Entry and rate regulation in airlines led to uneconomic route choices by regulated carriers prior to 1978 because they were unable to obtain authority for hub-spoke operations.

In many of the above cases ex ante analyses of the economic effect of potential deregulation often ignored the potential for reducing the pure economic waste inherent in suboptimal decisions that were induced by poorly set (or politically inspired) rates. As we have seen, the situation in telecommunications is no different. Because we have little data on the large number of private systems, policymakers tend to ignore the impacts of rate changes or competitive entry on the choice between common and private carriage. Nor is there much concern for the effect of various regulatory decisions on the cost of operating private systems or connecting them to the public network.

Some Guidelines for Future Policy

There is little doubt that the entry of new competitors and the divestiture of AT&T have created enormous pressures on regulated common carriers and their equipment suppliers. Productivity is rising rapidly in both the telephone services and telephone equipment industries, more rapidly than in the era of AT&T monopoly.[18] The surge in productivity and the decline in product prices suggest that the old closed regulatory regime provided fewer incentives for efficiency than the new competitive world. Detractors will argue that the new competition may result in the sacrifice of economies of scale or scope, but if such economies exist it is obvious they are not reflected in current regulated rates or prices.

If there are large economies of scale or scope, regulators should look for rate-setting strategies that allow these efficiencies to be reflected in rates. Efficient rates in such a world will lure back customers that have opted for socially inefficient private systems. Few of the current regulatory distortions reflect a genuine attempt to help the needy or to induce universal service.

It is quite clear that regulators continue to view "business" services as a source of subsidy for residential services even though residents end up paying higher prices for communications-intensive goods and services. Local access rates for business remain far above residential rates. The subscriber line charge for multiline businesses is nearly double the charge for residences. Regulators and legislators are resisting proposals for greater rate flexibility, such as the price cap proposals, because they might allow regulated carriers to compete so aggressively for business customers that increases in residential rates would be necessary. Unfortunately, failing to allow business rates to fall to levels approaching incremental costs is likely to induce further business flight to private networks or to essentially unregulated OCCs. The result in either case may be higher residential rates.

The lessons we have learned from the past two decades of reductions of regulatory barriers to entry into telecommunications are quite clear. Entry has proceeded much more rapidly than anyone would have expected from simply watching the new OCCs. The enormous rise in private communications systems ought to suggest to regulators either that there are diseconomies of scale and scope among the regulated telephone companies, that regulated institutions have created little incentive for efficiency among these telephone companies, or that regulated rates are substantially distorted. None of these possibilities would argue for a restoration of the status quo ante.

If regulators truly believe that continued regulation is necessary for the protection of dispersed consumers or the efficient exploitation of natural monopoly, they must look to reform their regulatory practices. If they believe that current rates are very close to their efficient levels, given carriers' costs, they should move to relax entry barriers. They cannot, however, ignore what the market is telling them—that unregulated private communications are growing far more rapidly than regulated common carriage.

Network Pluralism and Regulatory Pluralism

Eli M. Noam

Two basic forces shape change in today's telecommunications' networks: the integrative forces of technology which push toward ISDN and integrated broadband networks, raising barriers to entry; and the social and economic forces of pluralism, which move the network toward a decentralized and segmented federation of subnetworks. The tension between these forces is most pronounced on the front where they intersect: the rules of interconnection of the multiple hardware and software subnetworks and their access into the integrated whole. Such interconnection and access extend traditional common carrier principles from users to networks. In coming years policymakers must structure ways in which network interconnection is granted, defined, policed, priced, and harmonized. Many questions must be resolved concerning technical standards, national uniformity, and international collaboration. They must be confronted within a federal decision-making process which accords considerable weight to state and local government. Regulatory structures in telecommunications have paralleled the stages of the industry itself. The monopoly stage of the industry was accompanied by price and profit regulation. The breach of monopoly was tracked and sometimes facilitated by regulation focusing on industry structure. We have now reached a stage in which the network is rearranged from a centralized starlike structure into a matrix of interconnected but decentralized networks. This moves the focus of regulation to encompass not only traditional consumer protection, but also networks protection—where necessary, mediating the interaction of carriers, network operators, enhanced service providers, end-users, and equipment manufacturers. The key regulatory issue in this new network system is interconnection, and the main regulatory decisions shaping the network of the future will be in this area. Open Network Architecture (ONA) is the main regulatory battleground on which the rules of interconnection will be set.

Pluralism is the key concept for future telecommunications—pluralism in the shape of the network and pluralism in the policy process. To understand the consequences of this concept, we will examine the reasons for the disintegration of the traditional centralized network system; identify the nature of interconnection as the key regulatory issue of a pluralist network; analyze problems associated with Open Network Architecture interconnection; discuss the rocky state of federalism in telecommunications regulation and ways to overcome it; and demonstrate how states' governments must be intimately involved in these issues. We will propose a framework for decisionmaking for interconnection issues on the intergovernmental and interindustry levels.

Background

Interconnection was a policy issue from the moment that the original Bell patents expired in the late nineteenth century and rival carriers emerged. American Telephone & Telegraph (AT&T) reestablished control by preventing interconnection of rival local networks into its own local networks as well as into Long Lines. It took a strong Department of Justice challenge and its resolution in the so-called Kingsbury Commitment of 1913[1] to resolve these issues and assure interconnection. The system was stable until the late 1960s, when its restrictiveness was successfully challenged, first for equipment interconnection in *Carterfone*.[2] AT&T dragged its feet in assuring easy interconnection to its competitors, and this became a major factor in the government's antitrust law suit and AT&T's subsequent dismemberment. At the same time, issues of software network interconnection were being considered in the FCC's *Computer Inquiries*.[3] Critical issues were, among others, the conditions under which AT&T and later its successor companies could provide enhanced telecommunications services. The emerging policy required them to provide nondiscriminatory interconnection to other enhanced service providers as a condition for their own right to supply such services. The companies were also required to establish fully separated subsidiaries. This condition was relaxed in *Computer III*, but the Bell Operating Companies (BOCs) and AT&T had to establish Open Network Architecture arrangements (to be preceded by a preliminary stage of Comparably Equal Interconnection, [CEI]) that specified interconnection arrangements to the core of local networks, the local exchanges. To make such arrangements meaningful, they had to provide for the unbundling of network elements and exchanges, such as basic switching and call forwarding. In concept ONA aimed at permitting separate access, interconnection, substitution, and competition with each of the basic elements of the exchange. It sought to provide greater ease in establishing layers of software-defined networks superimposed on basic transport functions.

ONA has been interpreted as both a broad and a narrow concept. In its limited interpretation, ONA is merely about equalizing terms of competition for enhanced service providers. Indeed, the FCC's ONA procedure is limited, and its notice in this matter was modest in scope. The general process, however, will lead inevitably to a broadening. Similarly, the first Microwave Communications, Incorporated (MCI) case involved only a private line microwave system from Chicago to St. Louis, but it grew inexorably into much more.

The entire twenty-year policy sequence of network opening was controlled by the federal government—the FCC, Department of Justice, Judge Greene, and the D.C. Court of Appeals. The states, through their public utilities commissions (PUCs) fought a long string of defensive battles and lost virtually all of them, with the exception of the treatment of depreciation accounting.[4]

When ONA arose on the policy agenda, questions of substance and jurisdiction were raised: what kind of rules should there be for local exchange interconnection and who should set such rules? These questions are interrelated: allocating regulatory competency to a particular governmental level can determine the outcome of policy. (For example, leaving corporation statutes to the states has led to some interstate rivalry for incorporations, especially by Delaware, and over time this has brought about a marked relaxation of restrictions on corporate management.) The two questions are also philosophically interrelated. ONA as a concept of liberal local exchange interconnection strengthens the values of decentralization, openness, and hierarchy reduction. As a regulatory concept, it was not driven by demand; rather, the FCC placed it on its agenda as a conscious philosophical choice. However, the FCC has not acknowledged this decentralizing philosophy at the level of policy formulation. To the contrary, the FCC and various industry groups often believe that industry diversity must be accompanied by a policy monopoly of the central government. The problem with this dichotomy will be outlined below. But first, we will discuss the nature of pluralism in the network and of pluralism in regulation.

Pluralism in the Network

Perhaps the greatest failing of traditional telecommunications policy analysis is that it centers on what might be called "supply-side" telecommunications. That is, it looks at the subject from the angle of production and producers: AT&T versus MCI, long-distance versus local companies; enhanced versus basic service providers.

This bias is not surprising; after all, regulators deal primarily with carriers, technologists with networks, and economists with competition. But this supply-oriented perspective obscures a demand-side telecommunications analysis. Telecommunications is not simply a service produced by carriers, but is an interaction of groups and subgroups in society, facilitated by service vendors called carriers. The supply structure, if left to its own devices, reflects the underlying interaction of communication users with each other, whether in an all-encompassing user coalition or in several user groups. Thus, deregulation is not simply a policy primarily liberalizing the entry of suppliers. Just as important, it liberalizes exit from an existing but now confining coalition of users.

This process might be called "the tragedy of the common network" because it is undermined not by the failings of the traditional system, but by its success. The success of communalism creates the forces for particularism. In its early stages the existing first network participants seek additional partners to share costs and enhance their reach. In time, however, they pay a price for this outreach: democratizing participation leads to democratizing the control of cost-sharing redistributively, and this redistributory burden grows as the last participants enter the network. The larger users increase their electronic communications at a faster rate than the smaller ones, and their technical requirements are increasingly differentiated from those of average users. As the combined volume of large users rises, they can account for much of cost savings of sharing just between themselves. They therefore form alternative networks for large parts of their communications needs, first independently then with their closest suppliers, customers, or market partners.

The driving force for restructuring telecommunications has been the phenomenal growth of user demand for telecommunications, which is itself based on shifts toward a service-based economy. This shift in advanced industrialized countries was due partly to their loss of competitiveness in traditional mass-production industries, as compared to newly industrialized countries. It was due as well to a growing pool of workers people skilled in the handling of information. Information-based services, including headquarters activities, therefore emerged as a major comparative advantage of developed countries, while manufacturing and retailing became decentralized.

The growth of technological and operational alternatives undercut the importance of economies of scale and scope once offered by the centralized network. Economic and technological development led to an increased specialization and to a divergence rather than convergence of options. Application options increased considerably with technology.

By their nature and tradition, network operators provided standardized and often nationwide solutions, carefully planned and methodically executed. For the large users who depend on telecommunications, this was not enough. In the old days, sharing a standardized solution was acceptable to users because the consequential loss of choice was limited and outweighed by the benefits of the economics of scale gained. As the significance of telecommunications grew, the costs of nonoptimal standardized solutions began to outweigh the benefits of economies of scale, providing the incentive for nonpublic solutions. Furthermore, some users aggressively employed differentiation of telecommunications services as a business strategy to provide an advantage in their customers' eyes and therefore affirmatively sought a customized rather than general communications solution.

Another factor contributing to more pluralism in telecommunications networks was the growing number of groups in society that are linked via telecommunications. Their communications needs as collectives became more specialized, and private user clusters emerged. Early examples were travel agents and airlines, automobile parts suppliers, and financial institutions.

We are merely at the beginning of what will be a lengthy process of change. The future network system is one of great institutional, technical, and legal complexity. It includes national and regional carriers, local exchange companies, specialized service providers, cable television companies, domestic and international satellite carriers, local area networks (LANs) and wide area networks (WANs), private networks, shared tenant services, and value-added networks. The future network environment will be a pluralistic network of networks which are partly overlapping, partly specializing along dimensions such as geography, price, size, performance, software value-added, ownership status, access rights, and so forth. Economies of scale and scope will not become irrelevant: broadly based public networks will still exist, as will powerfully integrated networks with broadband capability. Economies of group specialization and of clustering will, however, be equally important. Such differentiation will permit users with similar needs, or with frequent interaction, to operate more efficiently. It will also allow public networks to be more efficient for their clientele, since they will not need to satisfy the demand of every constituency. In the traditional model standardization was a key element; in the pluralist model interconnectivity is the predominant characteristic.

The key requirement for such a system to function is the possibility of network interconnection, even among competitors. A quasi-common carrier principle is extended from users to networks. In the United States and the United Kingdom establishing interconnection and access of new hardware and software networks has been critical for the opening of the network system to new entrants.

Jurisdiction over Interconnection

In such an environment, the rules of interconnection and access for newcomers to the public network is the most important tool of structural regulation. Whoever controls the rules of interconnection controls the network system: the FCC, the states, or both. For the FCC to establish a federal predominance over interconnection to local exchanges is to establish federal control over local networks themselves, since the contradictions in treatment of largely identical service elements would not permit a stable dual regulatory system to exist over time.

Thus, there are four major possibilities for jurisdictional power.

(1) Expelling the states from the area: this would create major political battles, deprive the policy field of a major source of innovation and experimentation, and eliminate an important element of policy stability.
(2) Full federal withdrawal: this could lead to the United States as a telecommunications-Lebanon facing a world of telecommunications-Japans.
(3) Noncooperative coexistence: this would be characterized by continuing litigation, delay, uncertainty, and manipulation in industry forum-shopping.
(4) An institutionally collaborative approach: outlined below, it establishes a balance between national uniformity and regional/local diversity.

Important industry groups, particularly enhanced service providers, desire policy uniformity to complement technical standardization. Nonetheless, there are hidden costs in terms of innovation, flexibility, and process. A more careful analysis establishes the need for a system in which uniformity and diversity coexist, as is true for much of the economic system of this country.

Pluralism in Regulation

Given today's antagonism between the states and the FCC, it is hard to remember that coregulation dominated federal and state responsibility for communications regulation for a long time. Federal and state goals in this system were quite similar. The cooperative spirit was so great that the federal government permitted a system of revenue transfers to the states to support low local rates without direct federal oversight. Through the 1970s, however, federal and state goals diverged and the old system fell apart.

A bit of historical background is useful. The first thirty-five years of telephony saw no federal regulation. Such regulation started in 1910 with the Mann-Elkins Act,[5] which extended an undefined regulatory authority to the Interstate Commerce Commission. Although the ICC largely failed to exercise that authority, it did establish a position of dominance over state regulation of the railroads.[6] By analogy state regulatory authority for telephony also became legally tenuous, though the ICC did not in fact exercise its powers.

When the Communications Act of 1934[7] was drafted, the states urged statutory limits on the new powers of the Federal Communications Commission over intrastate wire communications. Congress responded positively by prohibiting FCC regulation "in connection with intrastate communication service by wire."[8] Congress intended to limit the scope of federal telephone regulation. The House report on the bill, for example, stated that "some 97½ or 98 percent of all telephone communications is intrastate, *which this bill does not affect*" [my emphasis]. How wrong these words turned out to be!

Following the 1934 act, public policymakers tried to reconcile the statutory fiction of intrastate/interstate network separation with the reality of integration. A system of coregulation emerged from these efforts, in which both federal and state agencies regulated the same facilities at the same time and in which the federal level cooperated to keep low local rates.

But this cooperative system could not last once federal and state policy goals diverged. The FCC began to embrace the concepts of efficiency, competition, markets, and entry, while the state commissions continued to emphasize equity and redistribution.[9] The split between the states and the FCC first emerged seriously concerning terminal equipment. In a series of decisions which culminated in *Carterfone*,[10] the FCC opened the accessory equipment market to rivals of AT&T. Many states, on the other hand, advocated a restrictive approach during this period, fearing that telephone companies would lose revenues which supported residential rates.

But the FCC prevailed in a landmark decision, *North Carolina Utilities Commission v. FCC*.[11] The separation of interstate and intrastate communications by sections 2(b) and 221(b) of the 1934 Act, the legal linchpin of the cooperative system, did not survive this equipment registration decision. Instead, the court found that the state's actions had frustrated the commission's efforts to discharge its responsibilities to create a national system of telecommunications and was therefore invalid. The court read the protected part of telecommunications very narrowly and rendered it almost meaningless. If virtually all facilities of a nationwide network are part of the interstate network, FCC jurisdiction would extend to all aspects, and the federal preemption would relegate the states to a role subordinate to the FCC. That was more than a dozen years ago. Since then FCC preemption of state regulation has been moving forward steadily.

Preemption is based on interpretations of the commerce and the supremacy clauses of the federal Constitution. The commerce clause contains a balancing test to weigh the local interest in regulation, burdens on interstate commerce, and regulatory methods. The supremacy clause tests conflicts between state policy results and the objectives of the federal statute. During the past few years FCC preemption has included: new customer premises equipment (CPE), end-user access charges, intrastate WATS, cellular radio CPE, paging services, digital termination service, vertical blanking interval of TV signals, teletext, FM subcarriers, incursion into local franchise territories, structural separation of subsidiaries, inside wire, radio common carriers, many private networks, cable television provision of telecommunications, and backyard satellite reception.

For example:

(1) For depreciation rules the FCC tried to require states to switch from whole-life to remaining-life depreciation and to use equal-life groups in doing so. Several states refused to adjust their accounting principles, and the matter went to the Supreme Court.[12] If there were any preemption case in which the Supreme Court might reverse the FCC, this was it because it did not demonstrate strong need for preemption. Even so, six federal courts had supported the FCC, and only one, in Arkansas, supported the states' position before it was reversed on appeal. The Supreme Court, however, did overturn the FCC, giving the states a rare victory (which unfortunately is sometimes interpreted as farther-reaching than might be prudent).

(2) On another front in 1983 the FCC preempted rate regulation for access of nonmandatory cable television channels. It preempted states from regulating cable systems that do not use public rights-of-way, so-called satellite master antenna television systems (SMATV). After passage of the 1984 Cable Communications Act, it excluded most state regulation of basic cable rates and struck down the use of local zoning codes to limit backyard satellite antennas and amateur radio operations. The 1984 act substantially reduced local and state regulatory power over cable operators, to the point of superseding a few provisions of the franchise contracts which had been voluntarily entered by cable companies eager for the franchise. In another significant decision, *Cox Cable*,[13] the FCC preempted much of the states' ability to regulate the use of cable TV systems in bypass operations as a common carrier requiring state certification.

With the exception of the previously mentioned *Louisiana* case, there has been a virtually unbroken string of state defeats in recent years. Before that case the last state victory of note in the courts was the *NARUC II* case.[14] There were a few instances of voluntary and temporary self-denial by the FCC; the satellite dish preemption could have reached further. These limitations, however, were by FCC choice, not legal necessity. Furthermore, courts began to apply first amendment rights for cable operators as "video publishers," and local regulation was held to be subject to the antitrust laws.[15] Both developments raised further barriers to state and local regulation of telecommunications.

Recently, the FCC has become more conciliatory. For example, it has used the Joint Board process to compromise on the actual rates in end-user access charges; however, it can ignore or reverse a Joint Board recommendation. The legal powers of the FCC remain, even when it chooses to bring the states into negotiating processes.

Why is federal regulatory predominance a problem? Should not federal regulation avoid duplication, reduce spillovers, lower cost of compliance, and provide access to expertise?

Increased centralization refocuses the distribution and balance of power in this country. A fundamental principle underlying federal and state constitutions has been a division of power among institutions and levels of government. There is a cost to such fragmentation, of course, reflected in occasional calls for an "energy czar," or a "drug enforcement czar"—mythical figures who can make the trains run on time while being as benign as Mother Teresa.

Constitutional division and separation of power is not the only way to deal with dominance in society. The Reagan administration has emphasized the role of the market in controlling market power. Its deregulatory policies have, however, collided with the fragmentation of power among different levels of government. It relinquished governmental power to the private sector in telecommunications; but in so doing it shifted the balance of federalism between the central government and the states. Having to choose between deregulation and decentralization, it chose deregulation. But once one establishes centralized regulation, a future administration can always determine its degree of leniency or strictness. Hence, regulatory centralization, even in the name of deregulation, may not be in the long-term interest of those advocating a conservative economic agenda.

Decentralization enhances flexibility, proximity, and regulatory accountability. Differing local circumstances and environments require different arrangements. Moreover, diversity among state policies provides a foundation for change. As Justice Brandeis wrote, "It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country."[16]

In telecommunications the United States has experienced two decades of continuous regulatory change. Other industrialized countries have found change much more difficult. America never had a comprehensive blueprint for telecommunications reform, but reform did take place, in contrast to many developed countries where telecommunications policy is centrally controlled. The United States has witnessed steady, gradual change through the piecemeal actions of governments, courts, and private initiatives.

Analyzing the processes of federalism is impossible without analyzing policy outcomes. In the first instance, most participants care far more about specific decisions rather than which level of government makes them. For example, liberals traditionally support federal intervention in civil rights matters, while many conservatives favor states' rights—each group because it felt its views were better served by these respective levels of government. But once a conservative federal administration was empowered, many liberals discovered states' rights, while many conservatives grew frustrated with state obstruction of national deregulatory policy. Opportunism can override ideology: often, policy preferences are outcome-oriented and depend pragmatically on interest group strength.[17]

Can this trend toward federal predominance be thwarted? The federal courts are reluctant to reduce FCC preemptive power, arguing generally that telecommunications is tied into an interstate system, for which the FCC sets policy, and that the FCC's choice not to regulate constitutes a policy which the states should not frustrate. Justice Burger, for example, while a D.C. Circuit Judge, upheld an FCC preemption in 1969 stating that: "any other determination would tend to fragment the regulation of a communications activity which cannot be regulated on any realistic basis except by the central authority; fifty states and myriad local authorities cannot effectively deal with bits and pieces of what is really a unified system of communication."[18]

Furthermore, recent appointments to the federal appellate courts are likely to be sympathetic to FCC deregulatory policies. Such agreement on substantive policy may well create further rationales for supporting procedural preemption.

Another approach to reverse centralization is through legislation. By enlisting Congress and governors, states have on occasion put the FCC on the defensive, forcing it to negotiate and compromise with the states. This has helped to invigorate the Joint Board process and has made the FCC at least slow its rate cap policy to replace rate-of-return regulation. But legislation restricting the FCC is rare. In fact, the major recent instance in which Congress limited FCC regulatory powers was the 1984 Cable Communications Act, which concurrently restricted even more state and local power. In the long run familiar Washington relationships will be stronger than temporary sympathy with positions of distant states. Congress is more likely to assign to itself more regulatory power than to the states.

On substantive policy the states usually favor redistributive policies. In an ideal federal system national policy is best placed centrally among state policies in order to be acceptable to most participants. It is then also acceptable to leave policy to the states because their policies are, on average, similar to the federal ones. Such federalism produces policy diversity but not fundamentally different policy. This was roughly the situation of telecommunications policy before the FCC embarked on its deregulation. State commissions, however, usually did not follow the FCC. Even governors who otherwise advocate free-enterprise support regulatory policies in telecommunications that are less market-oriented than those of the FCC. Thus, questions of jurisdiction involve both process and outcomes. Ironically, if the states were less uniform in their policy positions, they might well have greater influence with the federal government.

Are the differences between state and federal policies permanent? In many regulatory fields state rules tend to be more lenient than the federal ones, such as environmental or securities regulation. In corporation law the states, led by Delaware, have been relaxing their strictness (what former SEC Chairman William L. Cary has called the "race to the bottom"). However, when it comes to nuclear or chemical dumping, each state likes to regulate the activity out of its own territory right into its neighbor's back yard, leading to some overregulation by the states.

In telecommunications state regulators are much closer to the end-users than their federal cousins. They have to face the main losers in telecommunications deregulation, the subsidized residential customers. In the past states were able to impose redistributory obligations on the telephone carriers and on some of their customers because the telephone company was not going to move to Delaware. Local telephone companies accepted these burdens because they received a quid pro quo—protection from competition. For larger users who paid some of the bills, these were too small a share of business costs to cause them to move to states with lower telephone rates.

The benefits of deregulation are highly abstract—things like productivity trends and efficiency—and the beneficiaries are companies residing far away in Silicon Valley, Westchester County, or Taiwan or are white-collar corporate headquarters and large financial institutions. For most states then there are many in-state, voting losers and a few primarily out-of-state and corporate winners. States therefore tend to overregulate. Less than ten years ago, a good number of states fought against competition for terminal equipment. If today telephones are available for less than $10 at the hardware store, it is not because of the states. The federal government focused its efforts on eliminating the inefficiency of restrictions. It did not consider the telephone service as a social service. A logical economist's approach would be to substitute open and budgeted subsidies for the hidden ones of regulation. But the FCC has no mandate for such action, and Congress already had a $200 billion deficit on its hands. The FCC therefore created uncompensated losers, who in turn appealed to state commissions, since they were closer and more responsive. The state commissions have thus found themselves holding the redistributory bag to counteract the impact of the federal policies. Local service rate increases and life-line schemes are good examples of this. The state commissions have also borne some administrative costs of the new federal policies.

Thus, while federal policies toward long-distance service used to provide revenue for state redistributive policies and subsidies, this has now reversed, with states helping to make FCC policies politically palatable by covering some of its negative fallout.

The game is stacked against the states because the FCC is both a player and umpire. By defining an area as interstate in nature, the FCC can win almost every argument. The agency can expand its turf to suit its desired outcomes. For example, in the *Hecht* case,[19] a private intrastate network was held to be really interstate, so that federal rather than Maryland rules applied. Since it is rare for an agency voluntarily to give up power once acquired, this process is cumulative. Each new FCC generation adds jurisdictional power in those areas of particular concern to itself.

A frontal assault against this situation is hard to imagine. It would require more judicial skepticism toward expanding jurisdiction by preemption. Since 1983 several nontelecommunications cases have been resolved in favor of the states when state action had a different rationale or method from the federal one, when there was no clear congressional intent or when the cost to pursue congressional intent had become prohibitive.[20] On the other hand, the Supreme Court in the landmark *Garcia* case[21] decision undercut much of the Tenth Amendment defense against preemption.

This leaves the states to engage the FCC in constructive cooperation. On issues like ONA the battle lines are not yet hardened, and the problems they raise require analysis rather than combativeness. Cooperation could set jurisdictional boundaries between the state and federal levels for selected issues. Any such change seems more likely if states' policies are more widely distributed along the spectrum from strict regulation to substantial deregulation. The spectrum of state policies is already widening. For example, on the issue of shared tenant services, Texas and Oklahoma arrived at radically differing policies. More divergence is likely.

Open Network Architecture before the States

The divergence of interest, and yet the unavoidable necessity for state-federal collaboration, is apparent on the many issues of ONA. State regulatory commissions have only recently begun to explore the new interconnection, access, and unbundling regime of open networks. New York and Maine have ONA proceedings, California has a task force, and several others are studying the subject. All eyes are on the FCC because of its ongoing rulemaking, and some states are suspicious of ideas initiated by the FCC. Others view ONA primarily as an attempt to unchain the Bell Operating Companies. The FCC has sent mixed messages to the states. States have focused on jurisdictional questions rather than playing substantive roles in interconnection developments that can profoundly change their traditional role in exchange services. The FCC has begun to recognize that states must be part of the process if they are not to become part of the problem.

As recently as 1985, several Regional Holding Companies (RHC) embraced the open network concept as a vision of the future. Some of their *Computer III* filings before the FCC showed innovative thinking: they combined the opening and disaggregation of the central office functions with deregulation and entry into information services. They proposed easier competitor access to the network. They protected the network as their most important asset, its intense utilization was in their own best interest. But in their ONA plans of February 1988, a more cautious spirit had taken over. Partly because the FCC gave the Bell companies little time to plan or implement, the plans concentrated on the present, largely repackaging existing offerings or those already contemplated. It is possible that negative judicial holdings on RHC participation in information services reduced the quid of new deregulated opportunities for the quo of opening the network to further interconnection. Possibly, too, the RHCs wanted to keep down the cost of the unbundling process. And uncertainty about proregulatory state reaction to impacts on ratepayers may have been a factor at a time that the states challenged the framework of *Computer III* in the courts.

The filings did not confront longer-range implications of the future of an open network. These include: future competition in central exchange services, including potential incursions across franchise territories by some Local Exchange Companies (LECs) exchange services and even facilities; major enhancement in the possibilities of local transport competition (bypass) and of private group networks; built-in strains between local transport and exchange which could lead to full-scale structural separation; moves toward a "distributed" rather than centralized physical architecture of public central office functions, analogous to the computer industry's evolution into distributed processing.

Interconnection and Local Competition

Discussion of ONA principles often centers on access for Enhanced Service Providers (ESPs), giving the impression that the issue revolves around software networks. But the principles of interconnection and unbundling go much further. The FCC has already decided that interstate ONA elements, while based on expressed ESP needs, should be available to anyone, not just to ESPs. This could ultimately include a wide array of interconnectors with interstate traffic, such as AT&T, the OCCs, long-distance resellers, facilities bypassers, private networks, independent telephone companies, cellular operators, RCCs, other BOCs, and even international or foreign carriers.

For example, bypassers could transport interstate traffic on their own or on leased lines to the LECs exchange, have it switched there, and take at least the interstate part of the rearranged traffic to its destination. Similarly, they could use LEC subscriber lines and switches as a feeder system for their own trunks to major destinations, including to interexchange companies. The distinction between private fixed networks and public switched networks would blur. Competitive regional and local exchange companies could emerge, particularly were states to adopt intrastate rules similar to federal ones. And LECs could compete with one another for the business of switching the traffic of bypassers, independent telephone companies, or cellular operators. Interexchange carriers, similarly, could enter local distribution.

In the absence of assured regulatory protection, the BOCs established an in-house containment strategy to avoid, if possible, renting pure switching functions. The various parties disputed whether the FCC implicitly required additional unbundling or only limited unbundling. The FCC intended ONA as an aid to competition and innovation. A fundamental direction was that local exchange companies unbundle exchange services into discrete Basic Service Elements (BSEs) that could be bought separately and as needed by users. However, apparently to prevent pure transport interconnection, or to avoid ESP exchange access through other carriers that would permit the piecemealing and bypassing of their networks and challenge the existing pricing structure, the RHCs uniformly sought to establish something called Basic Serving Arrangements. These consist of two or three elements: an access link from the interconnector to the central office; basic central office functions; and transport between central offices. Different types of BSAs are offered, analogous to present access line arrangements, such as circuit and packet switched service or private-line circuits. By establishing these BSAs the regional companies sidestep an important part of unbundling. To mix metaphors they unbundle the bells and whistles but not the meat and potatoes. Basic switching is not considered a BSE, but feature add-ons are. And in order to get a BSE, one first needs a BSA; sometimes BSEs require a particular BSA, such as a private line.

Unbundled access, however, is what some users desire, and it puts state regulators in the middle of the critical issue of collocation. Some carriers, such as New York's Teleport Communications, wish to terminate directly in the physical location of the LEC exchanges themselves and locate the necessary equipment on those premises rather than reaching the exchanges via LEC-provided lines. The LECs resist, arguing that physical access by any other carrier could create operational and logistical problems. Collocation raises a host of pricing and technical issues too lengthy to consider here. But it deals primarily with physical premises, an eminently intrastate issue. The FCC has thus refused to mandate physical collocation because it believes there may be other and more cost effective ways to minimize access costs, and it does not want to chill their development or the establishment of contractual arrangements.

The competitive scenario for local transport and switching is a view into the not too distant future. It continues trends begun by the emergence of powerful private networks, shared-tenant services, and bypassers. But it makes further entry more accessible to small users. If these lead to substantial technological innovation and cost efficiencies, and if the new networks have to support basic service for the poor, then these changes may not be negative. Such developments cannot be prevented by regulation, but they can be channeled for an orderly transition. To deny states a role in this process is to deny them their ability to affect local service. Conversely, however, to leave ONA interconnection entirely up to each state could create compatibility problems. The responsibility for local service overlaps with a federal policy to assure unobstructed interconnection. Reasonable federal-state accommodations is extremely important.

The ONA plans of the Bell companies indicate that only about 40 percent of the requested BSE requests will be met in the near future and many requests will never be satisfied. Still others were not articulated in the expectation of denial or to protect future business plans.

The Bell companies wish to reject requested service elements because they are technically infeasible, impractical to unbundle or to bill; uneconomical to provide; requiring excessive customization; or out of bounds under the Modified Final Judgment.[22] Several RHCs, recognizing the business opportunities of some service elements, find a requested BSE feasible while others do not, or not yet. All of these roadblocks to a BSE require regulatory attention if ONA is to provide access as a right.

It is important to recognize just how complicated these questions are. How finely unbundled should BSEs be? How fast should they be deployed? Who should pay for their development? How standardized should they be across the country and across customers? How customized can they be, and if so, how should the costs be distributed? Can BSEs be resold? What should the extent of facility unbundling be, when at the same time technological forces strengthen the importance of integration, such as in ISDN and integrated broadband networks? What about interconnection to telephone companies' software programs, data bases, storage capacity, signaling channels, network management functions, billing arrangements, technical specifications, or customer information?

Pricing

One of the critical questions for suppliers and users is how to charge for ONA-type services. Telephone companies seem to accept the prospect of state regulation of ONA pricing, that is, of decentralized and nonuniform prices. Most Enhanced Service Providers, however, want nationally uniform rules and rates, service definitions, interfaces, installation, and even administrative procedures for "standard" BSEs. This is an understandable interest for ESPs, many of them fledgling firms desiring compatibility and portability. The need for national uniformity for pricing service elements is not as compelling as for basic protocol standardization, provided that pricing does not manipulate the competitive environment. It makes no sense to have uniform prices or pricing rules across the country without regard to local costs, conditions of demand, alternative offerings, technological state of the network, demographic and economic characteristics, etc.

No doubt, the desire for national uniformity will lead to calls for a preemption of conflicting state pricing regulation. Such preemption will not work because it cannot be limited to ONA. Federal preemption would establish prices for service elements that are, as likely as not, different from those of comparable services presently tariffed by the states for intrastate use. This creates the potential for arbitrage and conflict. Uniformity is possible only if one preempts state tariffing of most services, and not just of service elements—that is, if state rate regulation is largely cut off. To do so would represent an unprecedented challenge to federalism in telecommunications regulation. Furthermore, because price determines the quantity of demand, taking pricing out of state hands would deny them an essential tool to effect another traditional goal, to assure universal service. To prevent this the FCC and the states need to agree on broad guidelines to prevent confusion and incompatibility.

Thus, state and federal regulators will soon have to deal with the nuts and bolts of BSE charges and how to live with each other on these issues. One basic question will involve the principles for pricing BSEs. While few would disagree that the costs of new service should be borne by those who cause them, this cliché offers little advice. For the moment the Bell companies anticipate diverse pricing policies reflecting variations in monopoly power, regulatory regimes and business strategies. Some talk of cost-based pricing, some of market pricing or negotiated rates, and several plans imply that ONA services could subsidize the rest of the network or subsidize service elements to promote new services. No carrier advocates a classic rate-of-return-based pricing.

From the state perspective tracking ONA implementation and the recovery of ongoing costs will be difficult. The integrated structure of regulated BOCs and BOC-ESPs, together with complex joint and common cost allocation, make it difficult to detect cross-subsidies or unfair competition. The FCC views accounting rules as a major non-structural safeguard against cross-subsidization, and many states are currently establishing such rules for their own jurisdictions. The provision of adequate data is essential for any regulatory regime in ONA. It is also necessary to separate the interstate and the intrastate elements of ONA services.

Thus, many questions have yet to be resolved.

- Who should bear the risk of developing and introducing service elements? Must each service element be priced according to the same principle or depending on market conditions? Some may face competitive offerings, while others do not.
- Must each service element revenue cover its own cost or only in the

aggregate? How should cross-subsidization be handled?

- Could service elements be defined so finely as to permit undue price discrimination between users?
- How much flexibility should there be in the rates? Can users be charged according to negotiated rates to make price discrimination possible, can such negotiated rates ensure that needs for customized BSEs are met or that later entrants are not overcharged? Similarly, should it be possible for an ESP to obtain exclusivity to a BSE in return for its special development?
- Which cost definition should be used—average, incremental, fully distributed?
- Segments of sophisticated data services have already left the public network. Should there be pricing incentives to bring them back?

Another set of questions concerns existing services. Are they to be unbundled into oblivion? Some, presumably, will disappear. Others will be repriced, or their aggregate counterpart of service elements will lead to a different price than before. Certainly, this could affect some users negatively. In wide-ranging rate restructuring, there are not enough degrees of freedom to keep everyone satisfied while remaining consistent.

A Level Playing Quagmire?

ONA is designed to equalize competitive conditions for the broad array of interconnectors like enhanced service providers, and to permit the Bell companies to enter activities from which they had been excluded. Some of the advantages of a "home field" have been addressed by the FCC and regional company plans, including unequal access to technical standards and provisioning biases. The regional companies, in response to FCC guidelines, are willing to charge their own unregulated enhanced activities as they would charge unaffiliated service providers—maintaining meaningful parity where their own activities are collocated and their competitors are not. This would require a trade-off between competitive parity and economic efficiency.

Another bump in the level playing field is the extent of access by enhanced service providers to internal network functions that the local exchange companies can utilize. These include telephone company software programs, data bases, storage capacity, signaling channels, network management functions and processors, diagnostic functions, billing and collection arrangements, technical specifications, and customer information. Many of these functions are needed for full interconnection and a level playing field, but there must be limits to a "creeping socialization" of privately owned and managed carriers. This can be effected by extending the common carrier principle into the core of internal management and operations functions. Full disclosure of technical information can also reduce the incentive to develop proprietary technology, a long-term cost in innovation.

Billing functions and Customer Proprietary Network Information (CPNI) is particularly important, given its potential marketing value, and BOCs have superior access to it under the FCC *Computer III* decision. If CPNI is available to Bell product developers and marketing managers, they will be able to sift through computerized records in order to develop or market new products. Other ESPs, however, would have access to CPNI only with customer approval. To level the playing field means severely intruding into telephone customers' privacy or alternatively precluding a BOC from reasonably available information. One way to proceed would require the BOCs to process their CPNI for ESPs upon demand, and for a charge, without providing actual access to the data. End-users would have the right to be left out of any such processing.

Related problems deal with timing. A Bell Operating Company should not be able to hold off approval and deployment of a Basic Service Exchange until its own affiliated Enhanced Service Provider is ready to enter that particular service. Service elements should not be defined and priced to make price discrimination possible, nor should a departure from national service element definitions, or the sequencing of introduction, give BOC-affiliated ESPs a regional advantage over national services.

The long-range interest of the Bell Operating Companies is in a smooth ONA system. To stall ESPs would be an historic mistake. AT&T dragged its feet on interconnection of its long-distance service rivals, and the political-legal process became frustrating enough to seek the meat cleaver of divestiture. If the BOCs were to use interconnection as a strategic tool to repress competition, they might be threatened in a decade or two by a similar fate, and their exchange operations may become organizationally separated from their transmission functions.

Nonetheless, ONA by itself does not guarantee competition. It provides the possibility for entry, but actual entry will depend on cost and demand structures. No participant is owed a living. Fundamental economies of scale remain, despite their declining weight. It is possible that the system will implode into a much more unified structure, as did the old Bell System when it overwhelmed its independent rivals under Theodore Vail. Such a scenario is unlikely, given the varied nature and sophistication of service vendors and large end-users, which create communications market too heterogeneous for one organization. The unified system was appropriate for the industrial age, but is inadequate for an economy increasingly dependent on information and services.

It can be argued, as Milton Mueller has done,[23] that open access arrangements retard competition by making it unnecessary for carriers to duplicate facilities. This objection does not hold for software-based networks without a realistic possibility to create their own transmission network. Even for basic transport, ONA lowers barriers to entry because it permits step-wise entry rather than requiring all-or-nothing entry. It will nonetheless require vigilance to prevent oligopolistic and symbiotic arrangements to emerge. This is not to suggest that a significant backbone network will not prevail, particularly in local distribution. It will play a role as a prime standard setter. With time the system will evolve into a loose federation of subnetworks, and the overall network system will become a composite of numerous separate planning decisions. This probably has some cast in terms of efficiency and overcapacity, but what is the alternative? Can there be a stable solution in economies that otherwise favor a market mechanism and that want to stay on the leading edge of technology and applications?

Other Consumer Protection and Universal Service Issues

Regulatory policy must consider the likely effects of ONA on residential users. These customers, many of whom have little use for ONA services, could end up paying more because unbundling may reduce revenue that has previously subsidized residential service or because it could permit bypass and other revenue diversions. The volume of traffic and of revenues, however, could increase. Presently, a residential phone is used only about twenty-five minutes per day. An increase of usage by only five minutes per day could thus increase the revenue-flow from usage-sensitive charges by 20 percent. ONA could make it possible to provide small users with services which in the past may have only been available for large users. New and useful services are likely to emerge, and the cost of central office switching could go down as a result of competitive incentives. Such positive effects are distant, while costs are more immediate. For now it is hard to defend rate increases due to interconnection restructuring if general ratepayers service is not directly and appreciably improved.

ONA should not interfere with the provision of universal service. ONA is primarily an aid for access to the network by software or hardware networks and by voice services; it does not directly affect the access of the individual subscriber to the public network. However, the ability to be reached is as much part of universal service as the ability to originate a call. Thus, if ONA results in the emergence of a system of regionally specialized protocols of exchange carriers that preclude access to or from subscribers in other areas, then universal service is affected. This can be an argument for basic national standards, but it is also an argument for an even geographical spread of ONA-capable exchanges. Clearly, ONA will be implemented first and foremost in major business centers. If introduction to rural or depressed areas is slow, a further long-range differentiation in service spectrum from one region to another would become unavoidable. For many states this would not be acceptable on public policy grounds. They would want to have a say in any arrangement that creates an intrastate service gap that is not temporary. Other states may wish to design an industrial policy in which they differentiate themselves in telecommunications service capabilities.

Related to this will be the ability of small independent telephone companies to provide ONA interconnection. If the smaller independents are required to offer ONA interconnection, they may have to distribute their exchange services to larger independents or to the BOCs, and this reliance on subcontractors would reduce their role and their net revenues. States may therefore opt for a subsidy mechanism. Local choice should be encouraged.

The Need for Policy Coordination and Dispute Resolution

Friction will understandably develop in the process of setting ONA rules. States will not leave this field because their problems concern services which they approve and tariff. Key to ONA is a system of dispute resolution to preclude unnecessary litigation. It is necessary to create an effective, fast-moving, broad-based, and independent coordination mechanism with undisputed legitimacy for all parties, including regional subgroups. There is room for regional bodies to support a national one which reflects the diversity of regions. Some common principles are in the interest of the states, since their policy goals could otherwise be undermined by competition to attract large users.

To some orderly minds any variation from uniformity is heresy. But total uniformity looks better on paper than in reality. A uniform system, like a convoy, moves at the speed of its slowest or most obstructionist participants. There can be value in inter-BOC rivalry: diversity can give impetus to innovation or efficiency, and economic rationality in a competitive system can lead to convergence and coordination even in the absence of regulatory requirements.

Uniformity is not equivalent to FCC preemption. Agreements among the states or between the state and federal levels can achieve the same result. Preemption should be used only after a solid evidentiary record establishes that serious nationwide harm is otherwise unavoidable.

Many states do not favor the existing Joint Board arrangement because it leaves the FCC in the driver's seat. They assert that local exchange is part of their traditional jurisdiction and therefore require parity at the least. A coordinating mechanism with a tripartite forum involving the FCC, the states, and industry could consider many ONA issues. Others could be delegated to two expert subgroups:

(a) An intergovernmental ONA forum of FCC and the states would be charged with coordinating jurisdictional policy interests. For example, it could define a hierarchy of uniformity, establishing basic functions whose national uniformity is essential and others where regional or local uniformity is desirable. Its conclusions would be certified by the FCC and the states for adoption, if the respective regulatory bodies so choose. Similarly, state regulators might be constituted into regional forums, again with FCC representation.

(b) A private sector ONA forum would include a balanced representation, including LECs, ESPs, equipment manufacturers, and large as well as residential users. This body would be responsible, in the first instance, for technical coordination, standards, BSE definitions, and dispute resolution. It would operate flexibly and informally rather than be bound by traditional regulatory process. Its agreements would be reviewed by the intergovernmental ONA forum and, again, certified to the FCC and the states for their possible adoption. If agreement is not reached within a specified and fairly brief period, an arbitrator would make a recommendation to the intergovernmental forum; the intergovernmental ONA forum could make a determination on issues of great importance instead of an arbitrator.

Outlook

Because major changes in U.S. telecommunications policy originated under a conservative political regime, they are often viewed as the product of American business interests. But recently, other industrialized countries have adopted similar policies or initiated discussions on such policies. Perhaps these changes therefore reflect more fundamental than transitory regime philosophy. These policy changes are part of a broad transition in public communications which the traditional notion of the public network—centralized, closed, and public spirited—is evolving into a new one that is decentralized, open, and privately motivated. This evolving network resembles a loosely interconnected federation of subnetworks, much like the system prevailing in transportation. Rules of interconnection and of access are critical in such an environment.

The telecommunications of the future will thus resemble the rest of our economic system. It will be more complex and perhaps less efficient than the old system, but it will reflect more accurately our underlying pluralist society.

Where does this leave future regulators? It would be naive to expect fewer regulatory tasks. Many disputes will probably become more regulatory in nature. Network pluralism raises many regulatory issues, including: protecting interconnection and access; the relation of telecommunications policy to economic development policy; regulatory treatment of telephone carriers in their capacity as mass media;

preventing oligopolistic behavior and cyclical instability; establishing new mechanisms for redistribution; and establishing global arrangements to match the global scope of networks.

The open network concept is one sensible contribution to this list, particularly for interconnection and industrial policy. In their capacity as mass media, ONA rules may require telephone companies operating integrated broadband networks to provide cable television companies with access to these telephone companies' facilities and bandwidths as a matter of right or to use their billing and collection for pay-per-view events. Similarly, an ONA regime would prevent oligopolistic behavior by lowering barriers to entry for newcomers. Opening the network could shrink internal sources for subsidy, thus raising questions about substitutes and redistribution. Finally, the openness of the network exemplified by ONA will not stop at the national borders. In the long run telecommunications will transcend traditional notions of full national, territorial control over electronic communications; they will become archaic just as national control over the spoken and the written word became largely outmoded in Western democracies.

Generalized interconnection is unavoidable. To defend centralism against the forces of pluralism is quixotic. Control of interconnection is thus a key element of regulatory supervision. To attempt policy centralization is thus to deny states any control of future telecommunications structures, an exclusion they are bound to dispute. Similarly, for states to fight the principle of open interconnection is to tilt at windmills.

The logic of ONA is the logic of federalism. If diversity and pluralism are the FCC goals—of services, competitors and options—it must also view pluralist policy approaches as sources of strength rather than weakness. If government noninterference underlies deregulation, the FCC should tread lightly on state exclusions and preemptions. To be result-oriented in seeking preemption is extremely shortsighted. Presidents and administrators, commissioners and policies come and go, but the balance of the federal system will continue.

International Telecommunications Regulation

Leland L. Johnson

The similarities and contrasts between international and domestic telecommunications raise both familiar and new policy issues. Both markets are becoming increasingly competitive and, in response, we see moves toward deregulation. In both controversy rages about the conditions under which a firm with monopoly power should be permitted to enter competitive markets. Decades of inconclusive debate about whether telecommunications carriers such as AT&T have used revenues from their monopoly domestic services to subsidize their competitive services threaten to be repeated in the international arena.

But the markets are different in two key respects. First, international service necessarily requires cooperation between U.S. and foreign carriers for end-to-end connections. Typically, the foreign carrier is a government-owned postal, telephone, and telegraph administration—or PTT as we shall call it—that holds a monopoly of both domestic and international telecommunications.[1] Second, arrangements for owning and operating international telecommunications links—satellites and underseas cable—differ from those for domestic service.[2]

In the international arena the numerous issues that arise fall into two categories: first, whether foreign PTTs, by virtue of their monopoly status, are able to capture the bulk of the gains from competition among U.S. carriers—an area of increasing concern to the Federal Communications Commission (FCC) and other agencies concerned with U.S. foreign trade policy; and second, how to structure the market for cable and satellite links to enhance the efficiency with which international telecommunications markets operate, while taking into account distributional consequences, such as the effects on less developed countries.

To address these issues, and to offer possible solutions, this essay is divided into four parts. The first discusses the "retail" market. This includes the market structure for service to commercial, residential, and other consumers, the nature of arrangements between U.S. carriers and foreign PTTs for end-to-end service, and the consequences for U.S. consumers and carriers.

The second deals with the "wholesale" market—the supply of cable and satellite circuits to carriers who, in turn, retail them to consumers. The supply of circuits is of special concern because of incentives for owners of cable and satellite facilities to invest in excess capacity and in other ways to behave inefficiently. This subsection discusses the growing role of competition, the potential for deregulation, and the effects on key players.

The third deals with future integration of retail and wholesale markets that can be used to help protect existing carriers, especially monopolies held by foreign PTTs, from competition, and considers prospects for INTELSAT. The fourth tabulates major conclusions.

The Retail Market

The retail market is important because of concerns that foreign PTTs have stronger negotiating positions than do U.S. carriers to reach agreements required for end-to-end service and that price structures for services do not make the best use of existing telecommunications facilities or send the proper signals in planning new facilities. Five issues deserve particular attention: the structure and growth of the retail market; the nature of agreements with foreign PTTs; the disparity between the flow of originating and terminating telephone traffic in the United States that causes a large outflow of dollars; the question of who gains from the emergence of competition among U.S. carriers; and impediments to designing improved price structures.

Market Structure and Growth

The rapidly growing international market includes "voice" carriers that provide telephone service and "record" carriers that primarily provide telex and other hard copy services.[3] Although the voice market is dominated by AT&T, competitors such as Microwave Communications, Incorporated, International (MCII), and US Sprint are gaining

Table 1 U.S. International Traffic 1975–86

	1975	1986	Average Annual Percentage Change
Telephone			
Minutes (millions)	375.3	3,998.3	24
Revenue per minute from U.S.	$2.25	$1.16	−6
Telex			
Minutes (millions)	123.2	375.7	11
Revenue per minute from U.S.	$2.83	$2.17	−2
Telegraph			
Words (millions)	511.3	201.9	−8
Revenue per word from U.S.	$0.17	$0.34	7

Source: FCC, Industry Analysis Division, Common Carrier Bureau, *Trends in the International Communications Industry 1975–1986* (Washington, D.C.), 12–13.

market share. While in earlier years AT&T had essentially all of the voice market, its revenue share for originating traffic had fallen to about 95 percent by 1986, with MCII and US Sprint accounted for about 4 percent and 1 percent respectively.[4]

The record market consists primarily of a half dozen carriers, now in the throes of merger. MCI has recently acquired RCA Global Communications after earlier acquiring Western Union International and, at this writing, ITT Worldcom may be acquired by Western Union Telegraph. With these mergers 85 percent of the record market would be held by two entities—the postmerger RCA Globcom and WUI and the postmerger Western Union Telegraph and ITT Worldcom.[5]

Table 1 shows an annual average growth rate of 24 percent in telephone minutes—more than a tenfold increase between 1975 and 1986. No less striking is the nearly 50 percent reduction in the average revenue per minute, reflecting rate reductions and the growing use of direct distance dialing. The nearly four billion international telephone minutes recorded in 1986 amounted to only about 4 percent of the ninety-six billion minutes of domestic interstate message minutes. But the international market is growing faster than is the domestic and will achieve greater relative importance with the continued rapid growth of trade and other relationships among countries.

Table 1 shows slower growth for telex and negative growth for telegraph, reflecting the stiff competition from alternatives, like facsimile transmission, and the less favorable effects of technological advance on record services. These statistics are symptomatic of industry difficulties that are triggering the current merger movement. The telephone market is much larger than the record market.[6]

Agreements with Foreign PTTs

Competition among U.S. telephone carriers has been hampered by the need to obtain operating agreements with foreign PTTs. PTTs have been reluctant to deal with more than one U.S. telephone carrier because of added facilities and administrative costs. Nevertheless, by mid-1988 MCI had been able to negotiate agreements with some sixty countries (compared to over 200 for AT&T). These agreements specify, among other things, the revenue to be shared by the carrier that originates a call with the other carrier for its part in completing the call. Payments are made in accordance with the "accounting rate," which generally is divided fifty-fifty between the two carriers. Thus, if the accounting rate per minute is $2.50 (as it was for Brazil in 1986), the originating carrier pays $1.25 per minute to its partner for completing the call. The net revenue to the originating carrier reflects the difference between its "collection" rate—the rate paid by its customers—and one-half of the accounting rate. In general accounting rates are changed less often than are collection rates, largely because accounting rates are regarded as a device for splitting revenues between carriers, rather than reflecting the cost of using carriers' facilities.

Frequently, the originating carrier's net revenue is small because the collection rate is not much higher than one-half of the accounting rate. Indeed, for calls to some countries the net revenue of U.S. carriers is negative. For example, in 1986 the average per minute revenue to U.S. carriers for calls to Brazil was $1.17 while their payment to Brazil was $1.25.[7]

More than offsetting these losses are the revenues that U.S. carriers receive for terminating traffic that originates in the other country. The negative revenue of $1.6 million to U.S. carriers for traffic to Brazil in 1986 was much less than the $33.6 million they received from Brazil.

Table 2 Collection Rates—Five Minute Direct Dialed Call Converted to U.S. Dollars, 1987

	Standard Period		Economy Period	
	AT&T	Foreign	AT&T	Foreign
U.K. (BT)	5.78	6.07	3.49	4.74
West Germany	6.49	10.20	3.87	10.20
France	6.49	7.75	3.87	4.73
Italy	6.49	15.97	3.87	12.92
Spain	6.49	16.81	3.87	11.52
Sweden	6.49	7.68	3.87	5.91
Switzerland	6.49	10.73	3.87	8.04

Source: FCC, Industry Analysis Division, Common Carrier Bureau, *Comparisons for International Dial Service in 1987* (Washington, D.C., March 1988).

The Disparity in Traffic Flows

Were outgoing and incoming traffic perfectly balanced for the country in question, the accounting rate would be irrelevant. Regardless of the level, each carrier would end up with the amount it receives from customers (in local currency) as determined by the collection rate.

But traffic is not balanced. The telephone volume from the United States to most countries exceeds incoming traffic. Moreover, the disparity is growing. The ratio of originating to terminating minutes rose from about 1.3 to 1 in 1975 to nearly 2.0 to 1 in 1986. This disparity led to a net payments outflow that grew from about $69 million in 1975 to nearly $1.2 billion in 1986.[8] This outflow has become a nontrivial item in the U.S. balance of payments deficit and, as discussed later, a subject of concern to the FCC and other groups.

Why does originating traffic exceed terminating traffic? Two factors may be at work: first, the income elasticity of demand for originating calls is greater than zero. Thus, the relatively high per capita income in the United States would help to explain the disparity in call origination, at least for residential service. Second, U.S. collection rates are lower than the dollar equivalent of foreign collection rates, encouraging greater traffic origination in the United States.

Table 2 shows collection rates for AT&T and the dollar equivalents for certain foreign countries. For all countries listed AT&T's rate is lower. West Germany is notable because it has a single twenty-four-

Table 3 Changes in Collection Rates Five Minute Direct Dialed Call—Standard Period

Country Pairs	Years	Percentage Change Real Terms
U.S.—U.K.	1979–86	−48
U.K.—U.S.		−50
U.S.—West Germany	1979–87	−58
West Germany—U.S.		−68
U.S.—France	1980–87	−54
France—U.S.		−64
U.S—Spain	1979–87	−58
Spain—U.S.		−37
U.S.—Sweden	1979–87	−58
Sweden—U.S.		−56
U.S.—Switzerland	1979–87	−59
Switzerland—U.S.		−63

Source: Eurodata Foundation, *Eurodata Yearbook*, London, 1979–87; AT&T Tariff Filings. Data taken from ongoing Rand study on international telecommunications funded under grants from the National Science Foundation and the Markle Foundation.

hour rate to the United States, discouraging further the origination of calls from that country during off-peak periods. Of course, these comparisons are affected by fluctuations in the dollar exchange rate. But 1981 data show similar differences, suggesting chronically higher foreign collection rates.[9]

Why is the disparity increasing? This is harder to explain. If U.S. collection rates were falling faster (or rising more slowly) than foreign rates, this phenomenon would be easily understandable. However, available evidence does not suggest that U.S. collection rates (for the business day or "standard" time period) have generally fallen faster in real terms than those elsewhere. Table 3 shows the percentage change for six country pairs during the years shown. These changes are based on local currency rates (in recognition that foreign call originators pay in local currency, not in dollars) adjusted by national price deflator indexes. Except for Spain, real reductions in rates for other countries listed have been about as great or greater than for AT&T.

One possible explanation for the disparity between traffic flows is that U.S. carriers have adopted a low-period economy rate, in addition to a higher discount rate and a still higher standard rate, while many countries have not followed suit. In a recent survey of nine countries, only the United Kingdom, France, and Japan adopted economy rates, and West Germany has only a single twenty-four-hour rate.[10] Economy rates, introduced by AT&T in 1982, may have stimulated a substantial amount of calling from the United States.

Why, however, does AT&T (and other U.S. carriers) offer deeply discounted economy rates if foreign correspondents do not follow suit? Leading possibilities, elaborated below, are that the economy rate may be offered in exchange for more favorable operating agreements with PTTs than would otherwise be negotiated, and rate-of-return regulation of AT&T encourages its adoption of discount prices as well as generally lower outbound prices.

Who Gains from Competition

Many have expressed concerns that competition among U.S. carriers, combined with monopoly bottlenecks at the foreign end, causes much of the gain that would otherwise arise from competition to be shifted to foreigners. For example, one might expect U.S. carriers to compete in offering attractive accounting rates in negotiating operating agreements with PTTs. To gain entry against an incumbent U.S. carrier, a newcomer might offer the PTT a higher accounting rate. But if this happens, competing U.S. carriers could be "whipsawed" by monopoly PTTs into agreeing to accounting rates collectively unfavorable to themselves, with much of the gains from competition among U.S. carriers going to the foreign PTTs.

It is for this reason that the FCC imposes an international settlements policy in the voice market. If a U.S. carrier negotiates a new accounting rate with a foreign administration, it must announce the proposed change to its competitors before the change can take effect. Other carriers have a specified time within which they may object on grounds of whipsawing. Objections have been occasionally filed, but not sustained by the FCC, to proposed accounting rate changes. Generally, accounting rate adjustments are downward, rather than upward, and they are usually applied to all U.S. carriers after being negotiated by one. Thus, for most countries U.S. carriers face a uniform accounting rate.

Table 4 Market Share of MCII, 1986

	Originating Calls (percentage revenue share)	Terminating Calls (percentage revenue share)
United Kingdom	9.1	11.1
Japan	1.5	0.0
France	6.1	1.7
Italy	1.7	0.3
Taiwan	8.6	3.4
Brazil	19.4	22.3
Hong Kong	8.5	9.7
Australia	8.4	15.7
Switzerland	0.2	0.0
Greece	16.6	27.1
Netherlands	1.2	0.0

Source: FCC, *Trends in International Communications*, 36–37.

However, the FCC's policy does not fully protect against whipsawing because accounting rates are not the only levers available in negotiations. The terms of operating agreements about termination of traffic in the United States is critically important to U.S. carriers. As noted earlier, a carrier may make little money and may even take losses on its originating traffic because of high accounting rates, but these same high accounting rates may ensure substantial net revenues if the carrier gets return traffic. Thus, competing carriers may be willing to lower their collection rates in order to get favorable operating agreements for return traffic. The PTTs unambiguously gain if U.S. collection rates fall (with constant accounting rates) since the volume of the PTTs' terminating traffic, and their revenues, from the United States would rise.

As a reflection of bargaining outcomes, table 4 shows wide variations in MCII's market shares for originating and terminating traffic. In 1986 it originated traffic to Japan while getting none in return, but it got more than a proportionate share of return traffic from the United Kingdom and Brazil.

Foreign PTTs reap much of the benefit of increasing competition on the U.S. side for several reasons: PTTs retain relatively high collection rates that generate high profits (in local currency) and restrict the flow of their originating traffic and, thus, payments for terminating traffic to U.S. carriers; high accounting rates increase their revenues from traffic they terminate from the United States; and the benefits of competition to U.S. consumers are limited since high accounting rates restrict the degree to which U.S. carriers can lower their collection rates.

In response the FCC has been "increasingly concerned about the dramatic changes in traffic distribution and net revenue flows that we have seen may adversely affect U.S. consumers by raising the cost, and eventually the price of international telecommunications services originating and terminating in the United States." Accordingly, it issued a notice of inquiry in March 1988 to seek recommendations about "what, if any action this Commission should propose to lower international accounting rates."[11]

The FCC would likely face charges of undue intrusion into private business relationships if it sought unilaterally to reduce accounting rates. In addition, even if it succeeded in reducing these rates, the results might be counterproductive.[12] Moreover, competition at the U.S. end is not the only factor that has caused the problems noted by the FCC. The disparity in traffic flows and the net dollar outflow became significant long before competition emerged in international telephone service in the mid-1980s. AT&T rate-of-return regulation may be a longer-term factor responsible for these phenomena.

Under rate-of-return regulation, the firm's prices are designed to cover its revenue requirements. These include properly incurred operating costs and depreciation, plus a "fair" or "authorized" rate of return to cover its cost of capital imbedded in its "rate base," which consists of its undepreciated plant and equipment. Although rate-of-return regulation has been criticized for weakening the incentives of the firm for efficient behavior, as elaborated below, regulation may nevertheless force the firm to set lower prices than it would in the absence of regulation.

AT&T's prices for international and domestic service are not regulated separately. Rather, international and domestic operations are combined to determine whether AT&T is earning more than its authorized rate-of-return (currently 12.2 percent). But the absence of separate international regulation does not mean that AT&T necessarily sets prices to maximize profits in that market. For the higher its international prices (up to the profit-maximizing point), the higher would be its overall net revenues, and the more likely it would exceed its authorized rate-of-return. Thus, prices are probably lower in both international and domestic markets than they would in the absence of regulation.[13]

But these price-lowering effects on AT&T may reduce its bargaining power vis-à-vis government-owned PTTs that do not face the same regulatory constraints. The objectives of PTTs and the constraints they face are not clear. But it is safe to assume that they seek to earn high profits in part, at least, to help subsidize domestic telecommunications and postal services. The integrated nature of many PTTs facilitates such cross subsidization. Moreover, a large net inflow of dollars is regarded as a strong plus when the PTT seeks approval for new investment plans. Free of explicit regulatory constraints, the PTT could more credibly threaten to increase its collection rate (or to reduce it by less) than can AT&T. For example, the PTT might extract a higher accounting rate in return for not increasing its collection rate, or AT&T might offer an economy collection rate, noted earlier, in return for a lower accounting rate.

In short, the disproportionate share of the PTT gains may arise not only from competition among U.S. carriers but also from rate-of-return regulation of AT&T.

International Price Structures

In addition to the overall level of prices, the structure of prices is important in affecting the use of existing facilities and the level of planned investment. Generally, prices should be set at relatively high levels during peak traffic periods to reduce demand when capacity is strained and set at low levels during off peak periods when circuits would otherwise lie idle. It is generally true that peak and off-peak collection rates lead to better use of these resources than does a single twenty-four-hour rate. A three-tier collection rate, including the economy rates charged by U.S. carriers, is probably better still. But few foreign PTTs, as noted earlier, have adopted a three-tier structure.

Moreover, adopting such a structure is difficult unless accounting rates also vary with traffic conditions. For example, U.S. carriers would be more willing to adopt a low economy collection rate if the accounting rate for calls during that period were commensurately reduced. More generally, accounting rates should be lowered and restructured to reflect the cost of network use rather than, as today, being a way to divide revenues between carriers.[14]

The root impediment to adopting this reform, as well as reducing and restructuring foreign collection rates, is the foreign monopoly bottleneck. It is in the U.S. interest, and in the interest of foreign telecommunications users, that foreign markets be opened to competition. Possibilities for encouraging liberalization are discussed below.

The Wholesale Market

Arrangements through which telecommunications circuits, by satellite and underseas cable, are supplied to these carriers contrast with the behavior of carriers which serve end users. This wholesale market suggests serious economic inefficiencies. Equally important are issues concerning the ground rules under which competition should be allowed and possible institutional changes needed to provide satellite circuits competitively. Different countries will be differentially affected by changes in market structure. A group of issues merit attention: institutional arrangements for owning and using circuits; investment plans and the problem of excess capacity; FCC regulation of circuit suppliers; competition and changes in market structure; the future of the International Telecommunications Satellite Organization (INTELSAT); and effects of market structures on less developed countries.

Arrangements for Ownership and Use

Subject to regulatory approval, decisions about the use of particular technologies for domestic services and about whether to own or lease are left to the carriers. Rate-of-return regulation may bias choices toward excess investment in general, as discussed below. But there is no presumption that choices among technologies of equal capital intensity are biased—for example, that AT&T uses too few satellite circuits relative to terrestrial circuits.

The international arena is different because carriers cannot choose freely among facilities. U.S. and foreign carriers jointly own undersea cables. But carriers are not permitted to construct and orbit satellites for their own use or to lease or buy satellite circuits from alternative suppliers.[15] Rather, they may procure satellite circuits only from INTELSAT, a cooperative of more than 110 member states that invest in the global "space segment"—the satellites and associated ground control facilities—covering the Atlantic, Pacific, and Indian Ocean basins.[16] INTELSAT launched its first "Early Bird" satellite in 1965. By early 1988 it had a global network of thirteen far more advanced satellites with over 1700 pathways supplying telephone, data, and television services to some 160 countries and territories. Except for a number of separate regional and transborder systems, and the Soviet INTERSPUTNIK system, INTELSAT holds a monopoly in providing international satellite links.

To demonstrate success with pioneering satellite technology, and goaded by its race with the Soviets, the United States was anxious in the early 1960s to respond to worldwide telecommunications needs. Consequently, it led efforts to establish INTELSAT as an important ingredient of U.S. foreign policy. This approach required a single system and global cost averaging in which participants would share the cost of the system in proportion to their use. This approach was regarded as superior to piecemeal use of satellites in separate regions of the world—the way that cables are owned and operated. Especially, less developed countries were seen to benefit because their costs through a cost-averaged global system were presumed to be lower than otherwise.

Many countries are represented in INTELSAT by their PTTs, who are signatories to the INTELSAT agreement that delineates the rights and obligations of members. The situation is more complicated for the United States, however, because of its multiplicity of carriers. To represent the United States Congress established the Communications Satellite Corporation (Comsat) as a private for-profit organization. It is the sole U.S. investor in INTELSAT and the monopoly supplier of INTELSAT circuits to U.S. carriers and other U.S. users.[17] Thus, while carriers in other countries deal directly with INTELSAT and share the costs as signatories, all U.S. users must use Comsat for access to INTELSAT circuits.

Investment Plans and Excess Capacity

Both satellite and cable systems are enjoying rapid technological advance, and ambitious investments are planned into the 1990s. In the past satellites provided the only practical means for transmitting television signals across oceans, while coaxial cable was the only practical alternative to satellites for transmitting voice and data. The development of fiber optic cable is a dramatic advance. Leading examples include:

- The TAT-8 cable planned for completion in early 1989 is to connect the United States with the United Kingdom and France. Owned by AT&T and other U.S. and foreign carriers, its maximum theoretical capacity of 37,800 voice-grade circuits is about equal to total voice-grade cable and satellite demand estimated for 1990 between the United States and Western Europe. The cost per circuit for TAT-8 is estimated at less than one half that of its immediate predecessor, the coaxial TAT-7.[18]
- A TAT-9 cable, also owned by the carriers, is to be completed as early as 1991 and will connect the United States and Canada with the United Kingdom, France, and Spain. Its capacity is to be twice that of TAT-8, at an estimated increase in total cost of only 20 percent.
- A "private" cable system "Market Link" is to consist of two cables. The first, PTAT-1, is planned for operation between the United States and the United Kingdom in 1989, with capacity estimated to be at least as great as that of TAT-9. The second, PTAT-2, may be completed in 1992.
- The HAW-4/TPC-3 cable, owned by U.S. and foreign carriers, is planned for completion in 1989 for service between the United States and Japan via Hawaii. Its capacity, equal to that of TAT-8, is about five times the voice-grade traffic carried by INTELSAT in the Pacific Ocean region in 1986. This cable will connect with other fiber optic links to serve Korea, Hong Kong, Taiwan, the Philippines, and Guam.
- The North Pacific Cable—a private cable like PTAT-1—is planned for completion in 1991 between the United States and Japan, with a branch to Alaska.

These new cables will offer lower circuit costs and higher quality digital service than available with earlier coaxial cables. Moreover, they will compete with INTELSAT on high-density routes that generate a large percentage of INTELSAT's revenues.

These developments have not deterred INTELSAT from an ambitious future program. Following the current INTELSAT V and VA satellite series—with two spacecraft yet to be launched—INTELSAT has invested in five much larger INTELSAT VIs. Each INTELSAT VI has a theoretical maximum capacity of about 120,000 circuits, or more than three times the capacity of TAT-8. In addition, the FCC has conditionally approved eight international satellite applications for systems to operate separately from INTELSAT. Under current FCC policy they will be restricted in competing with INTELSAT (and cable) by carrying only nonswitched traffic. Thus, they are prohibited from carrying message telephone traffic that constitutes the bulk of the international (as well as the domestic) telecommunications market.[19]

Of course, one should not simply subtract the expected traffic from the maximum theoretical capacity of the satellite and call the difference "excess." A satellite accessed by many earth stations has a lower capacity than one accessed by few because of a drop in transponder efficiency. Bottlenecks can arise in the provision of certain services even if overall capacity is sufficient. Reserves are also important to help protect against launch and other failures. System planning involves balancing the value of reserve capacity against the cost of maintaining that capacity.

Taking this need for balance into account, many nevertheless are concerned that the system, especially with the INTELSAT VIs, faces excess capacity. According to Comsat:

> The decision to procure the INTELSAT VIs in 1982 was clearly reasonable at the time. In particular, the capacity of the satellites was based on then-current traffic projections which were done, not by Comsat and INTELSAT, but by the USISCs (United States International Service Carriers) in conjunction with their foreign correspondents. These projections, however, proved to be far too optimistic, and they have been revised sharply downward several times since the procurement was made. Unfortunately, it was impossible to downsize the satellites to match the declining projections. As a result, the INTELSAT VI satellites have more capacity than usage patterns now projected dictate.[20]

The overly optimistic traffic projections to which Comsat refers are illustrated in table 5, which shows a dramatic drop in AT&T's forecast of its future cable and satellite traffic between the United States and Western Europe. In November 1984 AT&T had estimated that traffic would grow by nearly 17 percent annually to exceed 36,000 circuits by 1991. But a January 1987 forecast disclosed a lower growth rate —about 10 percent—so that the total for 1991 was only about two-thirds of the previous estimate.

More generally, worldwide demand for INTELSAT circuits has been

Table 5 AT&T Voice Grade Circuit Forecasts (thousands of circuits) U.S.-Western Europe

	1986	1987	1988	1989	1990	1991
Forecast November 1984*	17.0	19.5	22.9	26.8	31.3	36.6
Forecast January 1987**	15.1 (Actual)	16.5	18.2	19.9	22.0	24.3

* FCC *Report and Order*, 50 Fed. Reg. 34813 at 34826 (August 28, 1985).
** Information filed by AT&T in FCC CC Docket No. 87–67 (May 11, 1987).

chronically overestimated. For example, the number of circuits estimated four years in advance for year-end 1985 was about 55,000. The actual figure at year-end 1985 was about 40,000 circuits, a 26 percent shortfall. At the beginning of 1987 INTELSAT estimated 56,000 circuits by year-end 1987, but the actual figure for year-end 1987 was only 48,000, a shortfall of 14 percent.[21] Other evidence suggests that such substantial excess has chronically existed in international facilities.[22]

INTELSAT's overly optimistic traffic projections is due partly to the way costs are shared among members. Each member pays a percentage of INTELSAT's worldwide total cost roughly in proportion to its use. If Carrier X is responsible for 5 percent of the worldwide use of INTELSAT voice grade circuits, it would pay 5 percent of total global cost, even if its traffic is concentrated in one ocean basin.

To illustrate the problem posed by this arrangement, suppose that Carrier X, using 5 percent of INTELSAT's circuits, estimates a doubling of its traffic during a future period while all other INTELSAT participants estimate that their traffic will remain constant. To accommodate this expected growth INTELSAT builds a larger system, with a cost increase of, say, 5 percent. But suppose the carrier's traffic remains constant rather than doubling, while other carriers' traffic remains constant as projected. Carrier X bears only 5 percent of the cost increase while other users bear the remaining 95 percent. Given future uncertainties, and the possible disruptions of real capacity shortages, carriers have an incentive to err on the high side, since each bears only a small portion of the cost of doing so.

Knowing this, it might seem that carriers would coordinate their plans to avoid imposing on one another the costs of erroneous traffic projections. The small portion of total cost that most members bear makes this difficult to practice. While Comsat has a large usage share of about 22 percent, and the United Kingdom the second largest share of about 14 percent, more than ninety countries have shares of less than 1 percent.

In two ways the ownership and cost-sharing arrangements for cable differ from those of INTELSAT. First, the number of carriers sharing ownership of a particular cable is much smaller. Participants are generally those within the region in which the cable operates. For example, the transatlantic TAT-8 cable is owned by some twenty-eight carriers, including AT&T, other U.S. carriers, Canada's Teleglobe, and Western European PTTs—a smaller membership than included in INTELSAT's worldwide system.[23] If a carrier overestimates its traffic projections, and a larger cable than needed is built, the carrier bears a larger portion of the excessive cost than that in INTELSAT.

Second, participation by a carrier in cable ownership is defined in terms of its share of cable capacity, not by its share of usage. A carrier may sell or lease portions of its share (subject to FCC approval for U.S. carriers), but it cannot reduce its cost share simply by reducing its usage. Thus, if cable circuit costs are higher than carriers expect, perhaps because of its excess capacity, they cannot reduce costs to themselves by reducing their usage.

The preceding illustrates only one of several factors—INTELSAT's organizational structure—that contribute to excess capacity. Others involve the perverse incentives created by FCC regulation of Comsat and AT&T, treated immediately below, and the possible desire of carriers to hold excess capacity to discourage competitive entry.

Regulation by the FCC

The FCC imposes rate-of-return regulation on Comsat and AT&T. Moreover, until recently it required AT&T to procure from Comsat enough circuits so that the proportion of satellite circuits to total circuits used by AT&T would not fall below levels specified by the FCC.

Although regulated prices may be lower than unregulated prices, the "cost plus" character of rate-of-return creates perverse incentives. To the extent that the regulated firm can pass on to customers whatever additional costs it incurs, and must also pass on whatever cost savings it achieves, its incentives for efficient operation are blunted. To determine accurately the reasonableness of costs incurred by the firm and the degree to which the firm should be rewarded for efficiency requires a depth of knowledge and wisdom utterly beyond the capabilities of regulators.

One of the most controversial areas in telecommunications policy is whether the FCC should adopt an alternative to rate-of-return regulation for AT&T, such as imposing price caps. Under price cap regulation the firm would be free to reap whatever profits it could, subject to the requirement of providing specified services at prices that do not exceed predetermined ceilings. The firm would have stronger incentives to minimize costs for whatever output it produces. This approach also poses problems, such as adjusting the ceilings appropriately to take into account general inflation and productivity increases and assuring that service quality does not suffer.

Rate-of-Return Regulation

Perhaps nowhere are the difficulties posed by rate-of-return regulation better illustrated than in the history of Comsat. Comsat has persistently earned profits in excess of its authorized rate-of-return, while the FCC's oversight has operated with long delays and much uncertainty. The first rate proceeding, started in 1965, ran to nine years of hearings, delays, and some 20,000 pages of testimony before the record was closed.[24] Nearly two more years elapsed before the FCC reached a decision in late 1975. Its decision was then stayed, pending a two-year court review, after which Comsat filed a petition for a rehearing.

With these delays and years of litigation the FCC and Comsat negotiated a settlement in 1978. Comsat's authorized rate-of-return was set at 11.48 percent, with an additional 1 percent allowed were Comsat able to demonstrate "internal efficiencies and economies."[25] Comsat also agreed to reduce its tariff for voice-grade circuits by about 45 percent, and to refund to its customers more than $100 million, including interest, held in escrow pending settlement of the case.

But technological developments and traffic growth exceeded estimates made during the rate case, resulting in actual rates of return for the years 1979–82 four to six percentage points above the upper-bound authorized level of 12.48 percent.[26] Comsat voluntarily reduced tariffs in 1979 and in later years. Even so, Comsat continued to earn returns over the allowed level. In response the FCC instituted a new investigation in 1985. Two years later, in early 1988, it ordered Comsat to refund $37 million, including interest, to its customers.

This regulatory regime creates perverse incentives. Were Comsat unregulated, it would presumably seek to maximize profits. Comsat would have incentives to minimize its costs for any given level of sales, since it could keep earned profits. But it has not been free simply to maximize profits. After long delays it has been required to refund millions of dollars because of past excessive profits. While Comsat has persistently been able to earn a return in excess of the allowable return, its return has been less than that of a profit maximizer (especially since Comsat has been virtually guaranteed a portion of AT&T's traffic because of circuit loading constraints discussed below).

> Subject even to loose constraint, a firm must consider the effect of its earnings on regulatory pressures. It makes a difference whether the rate-of-return is, say, 20 percent rather than 14 percent, if the maximum authorized is 12.48 percent. The greater the excess, the greater is the likelihood of regulatory response, triggered in part by complaints from the firm's customers. Thus, the firm may continue with a chronically excess return so long as the return is not so large that the complaints and outside pressures become irresistible.[27]

With the actual rate-of-return above the authorized level, and the authorized level surely no lower than Comsat's actual cost of capital (if mountains of testimony are to be believed), Comsat's actual return has been above its cost of capital. This has encouraged Comsat to expand its rate base because it earned the difference between its actual return and its cost of capital on the additional amount.[28] As the single largest participant in INTELSAT, Comsat might effectively encourage excessive investment and excess capacity in INTELSAT since a portion of the additional investment went into Comsat's rate base.[29] Moreover, rate-of-return regulation weakens incentives to minimize operating expenses and other costs than those that enter the rate base. Much of the controversy during the Comsat rate case involved the reasonableness of these costs.

AT&T, also subject to rate-of-return regulation by the FCC, may have similarly weak incentives to minimize cost for a given output. Like Comsat, AT&T has not been free simply to maximize profits. Judging the reasonableness of its costs is extremely difficult, however, and raises possibilities of excess investment and other inefficiencies. Such concerns will persist with continued rate-of-return regulation of AT&T. Price cap regulation might improve AT&T's incentive for efficient behavior.

Circuit Loading Constraints on AT&T

Because carriers are permitted ownership shares in cable facilities but not in satellites, concerns persist that AT&T is biased in favor of cable. Cable ownership goes into the carrier's rate base, while satellite leases from Comsat do not.[30] In addition, AT&T is engaged in the development and manufacture of undersea cable, but not of satellites.

Comsat depends heavily on U.S. carriers, especially on AT&T, which by itself comprises more than 50 percent of Comsat's INTELSAT-related revenues.

For these reasons the FCC decided early in Comsat's life to impose facilities loading restrictions on the carriers, "so as to allow Comsat a reasonable opportunity to earn its revenue requirements."[31] Carriers have been required to satisfy a specified minimum portion of their total circuit use with satellite circuits, regardless of Comsat's prices. The record carriers were freed of these requirements in 1979, but restrictions remained on AT&T, requiring roughly a fifty-fifty balance between the use of satellite and cable circuits across the North Atlantic and greater relative satellite use in the Pacific.

Circuit loading constraints have been a source of heated debate involving AT&T, Comsat, and others. In 1985 the FCC adopted a revised formula giving AT&T leeway to use relatively more cable circuits during 1986–88 and invited comments on alternative future loading formulas, including the possibility of abolishing them altogether.

In response Comsat and AT&T reached agreement about future circuit loading and the FCC lifted its restrictions in early 1988. In addition to the satellite circuits it was using at mid-1988, AT&T has agreed to allocate to satellite an average of 34 percent of its overall growth in overseas circuit needs, at least through mid-1995. The agreement also covers the conversion of analog circuits to digital ones. The converted circuits and additional digital circuits will be provided to AT&T under ten-year contracts carrying fixed prices.[32] Comsat is assured a substantial portion of AT&T's traffic, while AT&T will pay a relatively low price for satellite circuits.

The agreement will put Comsat under a price cap for most of its INTELSAT-related business. Regardless of its own or INTELSAT's costs, it is committed to supply circuits at prices no greater than those specified for ten years.[33] Moreover, these circuits are offered to other U.S. carriers at the lower rates.

Although Comsat remains subject to rate-of-return regulation, it may be unable to achieve even its 12.48 percent authorized rate-of-return due to competitive pressures. If so, Comsat will probably seek to maximize profits by minimizing costs for its sales, particularly where the bulk of sales will be under long-term contracts with AT&T and the other U.S. carriers and other sales will be for services like television transmission for which Comsat will have some flexibility to adjust prices, subject to FCC approval. Comsat's market power is likely to weaken for services outside the agreement as well, because fiber optic cables can be used as an alternative for television and other services on high-density routes, while new satellite systems may compete with Comsat (and INTELSAT) on both high density and low-density routes.

Competition and Changes in Market Structure

The FCC has conditionally authorized construction of eight international satellite systems in competition with INTELSAT and Comsat. Fiber optic cables owned by neither U.S. international carriers nor foreign PTTs are planned for the Atlantic and Pacific Oceans.

The entry of new players is hardly surprising given pricing structures for international services. With INTELSAT's global cost averaging, the price of a circuit between New York and the United Kingdom is the same as for one between California and Malaysia. Large differences between the costs of serving particular routes and regions, combined with excess capacity that raises INTELSAT's overall average costs, make attractive targets for new entry.

However, non-INTELSAT satellite systems face three key difficulties: they are permitted to carry only nonswitched traffic; are required to demonstrate under Article XIV(d) of the INTELSAT agreement that they will cause no "significant" harm to INTELSAT; and must obtain operating agreements with the countries they seek to serve.

Only one of the FCC-approved satellite systems—Pan American Satellite—has reached several operating agreements, and it launched a satellite in June 1988. The system has been "coordinated" with INTELSAT under Article XIV(d) to show that it poses no significant economic harm.

Another potential problem for non-INTELSAT systems is the price response of INTELSAT and Comsat. For example, one promising market is the sale or lease of transponders for domestic service. Since satellite coverage is not limited by national boundaries, it makes sense to offer combinations of domestic, transborder, and transoceanic services on a single satellite. For this reason INTELSAT has long made capacity available for domestic use especially attractive to less developed countries. The central issue is whether prices for domestic service should deviate from the global average for international service and, if so, what should be the ground rules.

Pricing Response and the Issue of Predation

Responding to potential competition, INTELSAT has established prices for domestic service that it claims are sufficient to cover the additional cost of providing that service. These prices are low because the cost of excess capacity need not be borne by domestic services. Many critics assert that these prices are too low and should be raised to include a fair share of excess capacity and overhead costs.

For example, because many satellite transponders would otherwise remain idle unless used for domestic services, INTELSAT established relatively low prices in 1985 to encourage domestic sales. Opposition arose from both U.S. government agencies and potential satellite competitors. According to an INTELSAT document:

> The U.S. was not convinced the prices adopted were sufficient to cover the relevant costs incurred to supply the INTELSAT V/VA transponders. It stated further that the prices should be based on the full costs incurred to supply the transponders, including an appropriate allocation of the Executive Organ and common overhead costs, and that the prices proposed by the Director General did not appear to include an appropriate allocation of such common costs.[34]

Comsat encountered similar arguments when it filed for 50 percent discounts for its "Caribbean Business Service" tariff. That tariff was suspended by the FCC's Common Carrier Bureau and set for investigation. According to the bureau:

> We are not convinced that the proposed discount is justified under the doctrine of competitive necessity. The size of the discount, for example, suggests an intention to undercut competitors' prices. Our concern that the discounted pricing proposed by Comsat is predatory buttresses our conclusion that suspension of the tariff is warranted. Finally, the paucity of cost support in the present record —when coupled with the other deficiencies in the filing and the significant unanswered questions raised by the tariff—has led us to conclude that suspension of the tariff is the prudent course.[35]

In late 1987 INTELSAT adopted new "Planned Domestic Services" (PDS) over the objections of U.S. government agencies and Pan American Satellite on grounds that the prices were too low. Pan American Satellite offered numerous reasons for its position, including:

–"PDS prices reflect unit costs based on demand forecasts which may be unrealistically high."
–Interest during construction is not included, making PDS prices "too low by up to 195 percent."
–INTELSAT ignores "important cost differences among different types of transponders such as power and coverage."
–"INTELSAT has imprudently built and then launched unneeded capacity."
–"There is no empirical basis for the claim that INTELSAT has economies of scale."[36]

Great mischief is caused by insisting that prices be designed to cover "full cost" or "fully allocated cost." Facilities costs shared by multiple services ("common" costs) can be allocated among the services according to a variety of economically meaningless formulas, giving widely varying outcomes.[37] Insisting that regulated firms set prices to cover a "fair" portion of common costs may lead competitors to undercut these prices, even if their costs are higher than the additional costs that the regulated firm would incur to serve the same users.

On the other hand, departures from fully allocated costs can lead to endless controversy, as the debate between Pan American Satellite and INTELSAT illustrates. In principle a multiproduct firm such as

INTELSAT should be permitted to price a service so long as the service covers its incremental cost. In this way it does not burden other services which might even be helped were the service in question to cover any common costs. Unfortunately, incremental costs are difficult, if not impossible, to estimate in a sufficiently credible manner to withstand regulatory and courtroom scrutiny, and debate persists about whether long-run or short-run costs are relevant.[38]

This debate is reminiscent of years of acrimony between AT&T and its domestic competitors about whether AT&T selectively set prices at anticompetitive levels. The only way to resolve these INTELSAT-Comsat controversies is through erosion of their monopoly markets from which revenues could otherwise be drawn to price at below incremental cost in other markets.

Other Restrictions on Competition

The compartmented competition between INTELSAT/Comsat and other systems is hard to justify. INTELSAT and Comsat are constrained in pricing, while other satellite systems are constrained to serve only markets for nonswitched services. The restriction on non-INTELSAT satellites is all the more anomalous since private cable systems are not similarly handicapped. Carriers such as AT&T and MCII are not formally barred from leasing capacity on these cables for switched services. Moreover, private cable applicants are free of the obligation to demonstrate the absence of harm to INTELSAT. Fortunately, the U.S. government has been reviewing the restrictions on separate satellite systems, and the White House Council of Economic Advisors has proposed that the prohibition on carrying switched services be lifted.[39]

Direct Access by U.S. Carriers to INTELSAT

U.S. carriers argue that they should be allowed direct access to INTELSAT to reduce the costs they incur dealing through Comsat. Questions of direct access became particularly pressing after the FCC proposed in 1982 to permit Comsat to offer, through a separate subsidiary, retail service in competition with retail carriers. Some argued that to permit Comsat to serve the public directly, while allowing it to retain its satellite monopoly, would give Comsat an unfair advantage. Direct access to INTELSAT would help to redress the balance.

After formal inquiry into the merits of alternative access arrangements, the FCC concluded that little would be gained by granting direct access. Whatever costs would be saved through direct access would be offset by other costs borne by carriers themselves.[40]

The issue of direct access has become less pressing because Comsat has reduced its markup over INTELSAT tariffs, thus reducing the potential cost savings afforded by direct access, and Comsat has sold its retail subsidiary, reducing the possibilities for conflict of interest. For the future direct access questions will probably be overshadowed by the issue of deregulating Comsat.

Should Comsat Be Reregulated?

Because Comsat will have difficulty earning its authorized rate-of-return, the issue arises as to whether Comsat should be deregulated. Since the bulk of its traffic will be on routes served by the new cables, its monopoly power will be eroded.

Competitive satellite systems could play an important role in low-density routes not served by cable. If INTELSAT members on these routes face large rate increases because of cost deaveraging by INTELSAT and deregulation of Comsat, they might be motivated to support competitive satellite systems by exerting pressure within INTELSAT for favorable determinations under Article XIV(d), urging the U.S. government to abolish its restrictions on carriage of switched service and signing operating agreements for end-to-end service.

Deregulating Comsat would permit it to price more flexibly in response to competitive cable and satellite systems. While deregulation today would be premature, especially since other satellite systems are still subject to the switched traffic restriction, the issue of deregulation will become more pressing as we move into the next decade.

The Future of INTELSAT

INTELSAT's organization is potentially unstable because participants can reduce their cost share, with no formal penalty, simply by reducing their usage. Thus, if some countries reduce their usage because of new competitive alternatives, the average circuit cost to remaining users would rise due to INTELSAT's fixed costs. But this increase in average costs would encourage other users to shift also, further raising INTELSAT's average costs. To be sure, users are not likely to abandon INTELSAT entirely because they need balance and diversity among facilities to ensure reliable service in the face of outages and launch failures. Nevertheless, with many new available facilities carriers will have greater leeway in reducing INTELSAT usage. Alternatives for INTELSAT ownership therefore need to be evaluated, including the sale and lease of transponders similar to ownership and use arrangements for cable. This would necessarily force an end to global cost averaging, with circuit costs on particular routes reflecting the costs of transponders used for them.

Moreover, the United States needs to reconsider the role of INTELSAT in U.S. foreign policy. Early in satellite development a single global system may have been meritorious. But with new technologies and changing market structure, it makes less sense today and will make even less in the future. A reevaluation of U.S. policy should encourage INTELSAT to move away from global cost averaging and to consider new ownership and use alternatives, leading toward more open and competitive worldwide telecommunications.

This is not to say that INTELSAT's future is bleak. It offers a degree of worldwide connectivity unmatched by any cable or alternative satellite system. INTELSAT will continue to be vital in providing hundreds of pathways for voice, data, and video, along with circuit restoration capabilities to protect against disruptions in cable service. To play this role effectively, however, INTELSAT will need adroit management, pricing flexibility, and an investment plan responsive to the changing demands on the global system.

Effects on Less Developed Countries

The effects of greater price flexibility by Comsat and INTELSAT will depend on the locations and route structures of different countries. INTELSAT's cost averaging assumes that less developed countries on low-density routes stand to benefit by subsidies from countries on high-density routes such as those across the North Atlantic. However, it is not clear if these countries receive such subsidies, at least at this stage of satellite development.[41] In any event three conclusions emerge:

–Global cost averaging is not as important to less developed countries as it was at the time INTELSAT started because striking technological advances have dramatically reduced circuit costs and because overall traffic growth and greater traffic densities permit these countries to take better advantage of economies of scale.[42]

–A substantial change in satellite circuit costs would have rather little effect on the consumer because they are only a small portion of the overall cost of providing end-to-end service.[43]

–Getting from one earth station to another via satellite is the easiest portion of the journey. The ability of domestic terrestrial networks to provide end-to-end service is a greater problem. "This 'last mile' is, and will remain, the bottleneck in satisfying communications needs in less developed countries. This problem arises because investment in domestic telecommunications networks has a heavy foreign exchange component. Because scarce foreign exchange must be rationed among a nation's needs, telecommunications being only one, it is not surprising that dependable and adequate domestic networks are frequently out of reach."[44]

Detailed analysis is needed of the quantitative impact of deaveraged pricing on the less developed countries, taking into account the costs of systems optimized for use on low density routes. Quite possibly, the costs of serving these countries would remain low if the satellite system were not designed primarily for high traffic volumes across the North Atlantic and North Pacific.

Vertical Integration and Access to Foreign Markets

The preceding analysis treats carriers in the retail and wholesale markets as if they were separate, but a good deal of vertical integration exists. Foreign PTTs have ownership shares in both cable systems and INTELSAT. U.S. carriers also participate directly in cable ownership. Vertical integration helps to protect the monopolies held by the PTTs.

Critical for a newcomer is access to foreign markets. After negotiating an initial operating agreement with Peru, Pan American Satellite has found it difficult to obtain agreements with European administrations. It has gotten a foot in the door by negotiating an agreement for limited service with the United Kingdom and West Germany. Private underseas cable systems face similar problems. In principle AT&T or other U.S. carriers could buy or lease capacity on the transatlantic PTAT-1, but they would need foreign partners for end-to-end access. The problem is partially alleviated for PTAT-1 because a part owner —Cable and Wireless (C&W)—owns Mercury Communications, which can provide access to the United Kingdom. C&W also has a U.S. subsidiary that operates a digital private fiber optic network to facilitate entry into this country.

Access issues arise not only between new entrants and foreign countries but among the entrants as well, adding to concerns about how foreign trade policy should be designed to balance national and global interests. For example, Pan American Satellite contested C&W's application for switched voice services to the United States until Pan American Satellite was able to gain access to the British market. It stated that C&W had "taken advantage of the openness of the U.S. telecommunications market, and it has not hesitated to ask for its government's and the U.S. Government's help in seeking to open non-U.S. markets to its services. . . . It would therefore be intolerable if C&W, through Mercury, were to be allowed to continue to foreclose entry to a U.S. separate system competitor."[45]

In response to such conflicts, the chairman of the House Subcommittee on Telecommunications and Finance requested the FCC to initiate an investigation of anticompetitive trade practices. He stated,

> I am extremely concerned that these open entry policies have created a situation in which carriers operating in protected foreign markets are able to frustrate long-standing U.S. policy goals of free and open competition. While the U.S. must respect the right of foreign sovereigns to protect their own carriers in their own markets, there is no justification for that protection if it enables foreign carriers to enjoy unfair competitive advantages in international and domestic U.S. markets.[46]

Adding to the foreign trade controversy, as well as line of business restrictions imposed by the Modified Final Judgement (MFJ) in the AT&T divestiture, is the role that the Regional Bell Operating Companies (RBOCs) should be permitted to play in international telecommunications. Under terms of the MFJ the RBOCs are prohibited from providing interexchange service. NYNEX sought a 50 percent ownership share in Market Link, but by mid-1988 it had been unable to obtain a waiver under the MFJ. Pacific Telesis also applied for a waiver to hold a 10 percent ownership share in International Digital Communications, a consortium of Japanese and other firms that will own and operate North Pacific Cable.

The issues are similar to those about BOC entry into domestic long distance and other markets, discussed elsewhere in this volume. But here, monopoly control at the foreign end is a complicating factor. Were the financial and political strength of the RBOCs directed to ownership of international facilities, negotiated outcomes might be more favorable to the United States, while adding further to a more competitive U.S. market for international services.

The Use of Excess Capacity to Discourage Competition

A question remains, however, as to why PTTs are opposed to dealing with Pan American Satellite or with other competitive providers of telecommunications circuits. As in the case of competition among U.S. retail carriers where PTTs stand to gain, why would not these PTTs gain from competition among transoceanic circuit suppliers and therefore gladly offer them access? The greater the competition between, say, Pan American Satellite, PTAT-1, INTELSAT, and others, the less expensive are circuits likely to be to the PTTs. If, for example, Pan American Satellite offers lower-priced circuits than INTELSAT, why would a PTT opt not to use them? In any event it controls the gateway to its domestic market and so can retain whatever gains come from having a bottleneck facility. For example, any earth station operating with a Pan American Satellite transponder could be owned by the PTT or, alternatively, "taxed" by the PTT so that it would retain its full monopoly revenue for access to its domestic network.

An inadequate answer is that the PTT, as part owner of INTELSAT, has a vested interest in protecting it from competitive intrusions. But we have already seen that the PTT's share of INTELSAT ownership costs is determined by the proportion of the PTT's use of INTELSAT. Thus, it can reduce its cost share by reducing its usage share. Indeed, in principle it could abandon use of INTELSAT entirely, without any clearcut penalty, in favor of a lower cost substitute!

Perhaps a better answer is that the presence of competitive transocean circuit suppliers exerts pressure to break through the PTT's bottleneck. Pan American Satellite's foot in the door in the United Kingdom is an example. The pressure of competitors seeking operating agreements encourages questions by the PTT's customers and others about whether the bottleneck should be maintained. While the PTT can, in principle, own the earth stations as noted above, the technical ease with which small satellite earth stations can be located near customers to bypass the bottleneck local network would pose a continuing threat to the PTT.

Moreover, access to one country can pose a threat to the PTTs of neighboring countries. Traffic to those countries from the United States could be routed via a country to which a competitive carrier has access, resulting in less attractive financial settlements to these PTTs than otherwise. Consequently, PTTs are probably quite apprehensive about the United Kingdom's decision favorable to Pan American Satellite. This situation also illustrates how the switched traffic restriction on non-INTELSAT satellites helps to protect not only INTELSAT but PTT monopolies as well.

To PTTs an attractive feature of INTELSAT is that it is "safe." With joint ownership and control by the PTTs, INTELSAT exerts no pressure to bypass domestic networks. Similarly the joint ownership and control of existing and planned cables like TAT-8 ensures that no threat will arise. But separate satellite and cable systems like Pan American Satellite and Market Link are another matter.

It is not surprising, then, that PTTs are reluctant to enter into agreements with outside circuit suppliers. Indeed, from the PTT's point of view it might be better if these suppliers did not exist at all, in which case the PTT would not be placed in the continuing awkward and potentially dangerous position of having to say "no."

This leads to a possibility about how PTTs may seek to keep such suppliers from emerging: by strategic use of excess capacity in facilities that they themselves own—INTELSAT and cables—they can discourage competitive entry. Excess capacity can either attract or deter competitive entry, depending on how it affects pricing decisions by incumbent carriers. As previously noted, it attracts competitive entry insofar as it increases the incumbent's costs. But it deters entry if it is used as the reason for reducing prices, or threatening to reduce prices, to undercut those of rivals.

Thus, one must consider whether the bias in overestimating future demand, leading to excess INTELSAT capacity, arises at least in part because of the desire by INTELSAT's owners to discourage competitive entry. Similarly, the construction of TAT-8 and the planned TAT-9 just a few years later are predicated on demand estimates that could turn out to be excessive.

Deliberate errors on the high side could be motivated in part by the desire to deter construction of Market Link and other competitive systems. To be sure, excess capacity entails added costs for the PTTs, but this cost may be small relative to the losses that they would suffer if their highly profitable international monopolies were eroded.

Similarly, investments in excess cable capacity by existing U.S. carriers may help prevent a reduction in their market share of both domestic and international traffic by discouraging construction of trans-ocean facilities that could be connected to competitive domestic networks.

Conclusions

In light of scattered and incomplete evidence, this study suggests the following conclusions:

- –Foreign PTTs may be enjoying a disproportionate share of the benefits of telephone service with the United States, evidenced by relatively high collection rates, sticky accounting rates, and the increasing outflow of dollars.
- –In recent years this situation may be attributable to competing U.S. telephone carriers being whipsawed by the PTTs. But rate-of-return regulation of AT&T may also be an important longer-term factor.
- –The FCC would be in an awkward position to intervene in private negotiations to force accounting rates downward. The fundamental challenge is to break through the PTT monopoly—a task that is beyond the capabilities of the FCC or of any single U.S. carrier.
- –A more promising way to help break through PTT monopolies is to encourage competition among satellite and cable facilities in the hands of those who will persist in "knocking at the door" of PTTs.
- –To encourage competition the switched traffic restriction on non-INTELSAT satellite systems should be lifted. Consideration should also be given to waiving line-of-business restrictions on the RBOCs to permit their entry into international markets as additional pressure against the PTTs.

- Pricing responses by Comsat and INTELSAT to competition pose a difficult dilemma. Requiring them to price in accordance with fully allocated cost poses the danger of competitors being able to survive even though their costs are higher than those of INTELSAT and Comsat. But the floor below which INTELSAT's and Comsat's prices would be predatory or anticompetitive is very difficult or impossible to determine.
- Excess capacity may be encouraged in INTELSAT and elsewhere by incumbent carriers to justify price cuts against competitive entry as a way to protect their market power in providing end-to-end service.
- Although rate-of-return regulation may reduce prices to consumers, it also weakens incentives for firms to behave efficiently.
- In its current investigation of the merits of imposing price cap regulation on AT&T, the FCC should take into account the positive efforts that price caps might have on AT&T's behavior in international markets.
- Consideration should be given to deregulating Comsat within the next few years—but only after the traffic restrictions on competitive satellite systems are lifted.
- Less developed countries may face higher circuit costs if INTELSAT abandons global cost averaging. But these costs, in any event, are a small part of total end-to-end costs. The more serious difficulty faced by these countries lies in their inadequate domestic networks.
- INTELSAT's arrangements for ownership and circuit use may cause serious problems of instability in the face of increasing competitive pressures. Evaluation is needed of the desirability of alternative arrangements, including those similar to ways that cables are owned and operated.

MASS MEDIA

Broadcasting
First Amendment
Public Broadcasting
Cable
Spectrum

Broadcasting

Henry Geller

The present statutory scheme to regulate broadcasting is based on a public trustee concept: broadcasters receive free a short-term license, in return obligating themselves to serve as a fiduciary to the community—to render public service. This scheme has failed, and its lack of soundness and efficacy is the major issue confronting future policymakers. Two markedly different solutions are available: the first, to scrap the public trustee approach, obtain reasonable sums from spectrum usage fees and/or auctions, and dedicate such sums to accomplishing more directly congressional goals in this area; the second, to maintain the public trustee approach but adopt effective, objective regulations concerning the definition and nature of public service. The analysis which follows sets out steps necessary to repair the public trustee scheme, so that this second alternative can be evaluated. The first approach, however, is by far preferable, since it constitutes a policy structure in which its public policy goals can be reached more effectively. Maintaining the public trustee approach means retaining a policy structure which itself militates against its own goals, so that they can be achieved only through continuing behavioral regulation.

The Industry

Broadcasting is defined in Section 3(o) of the Communications Act of 1934 as the "dissemination of radio communications intended to be received by the public." Its most familiar forms are AM and FM radio and over-the-air TV broadcasting. By early 1988 there were 4908 commercial AM radio stations, 4045 commercial FM stations as well as 1314 noncommercial FM stations, and 1349 TV stations (538 VHF, 481 UHF and 330 noncommercial; see appendix A).[1] The Federal Communications Commission (FCC) stopped collecting financial data from 1980 on as part of its deregulatory bent; as a result, there are no definitive financial figures.

Generally FM radio, because of its superior technical performance, has 70 percent of the radio audience and is profitable, with a heavy emphasis on music formats. AM radio, overcrowded and with a poorer signal, is struggling, many are unprofitable and seeking formats that might give them a larger audience. The Federal Communications Commission (FCC) delayed the advent of AM stereo for years by failing to choose one technical standard and has open inquiries on how it can assist AM broadcasting.

Television, particularly VHF stations in the larger markets, remains highly profitable, despite competition from cable television and the video cassette recorder (VCR). For example, in 1985 a VHF network affiliate in Boston was sold for $450 million, and a Los Angeles VHF independent (that is, unaffiliated with the three major networks) sold for a record $510 million.

The networks are facing a declining audience: they held 90 percent or more of the audience in prime time in the 1970s and now hold roughly 76 percent in noncable homes and 55 percent in cable homes with pay cable. Cable is now in over 51 percent of the TV households and passes 81 percent of the prime time audience.[2] The marked increase in independent stations, from 90 in 1970 to 314 in 1988, accounts also for roughly 5 percent of this decrease in network audience. With rising programming costs, a number of independent stations are encountering financial difficulties, including bankruptcies in a few instances.

A significant development has been the effort of Fox Television (Rupert Murdoch) to create a fourth network among the independents. Fox, along with the three major networks, uses domestic satellites for its distribution system. The satellite has made possible the rise of several news networks which supply the local station with feeds competitive with the three majors. Only one of the three networks, NBC, is profitable, but when those stations owned and operated by the networks are counted, all three earn healthy profits. Despite their declining share, the networks do not face a dismal future: they remain *the* way a national advertiser can reach the wide audience sought. Thus, network advertising revenues totaled

$6.8 billion in 1987, as compared with about $1 billion for cable.

The FCC authorized two new services at the beginning of the decade —low power TV stations (LPTV) and direct broadcast satellite (DBS) operations. LPTV stations have limited power (100 watts in VHF, 1000 in UHF) and thus have a reach of about fifteen miles, so-called "beltway" stations.

Thousands of applications have been filed, and, using a lottery scheme which favors applications with a favorable diversification picture (that is, no other media holdings or minority ownership), 561 authorizations have been made, with 351 on the air. So far, the service has not succeeded. No satellite driven networks of LPTV have developed.

Direct broadcast satellites are nonexistent in the United States. After the FCC opened the service in 1982, several companies (for example, Comsat) considered entering DBS, but all backed away. DBS has two negative factors: high up-front costs and intense market competition from entrenched services. Its introduction in the United States is likely to depend on the advent of high-definition television (HDTV) with low-cost consumer flat plate receivers roughly one foot in size. It is difficult to predict when and whether this scenario will come to pass, but it appears unlikely before the early 1990s. Several parties have indicated great interest in providing DBS in the early part of the next decade, using high-power (60 watt) Ku band satellites soon to be launched (in the higher spectrum at 12 GHz).

A consumer satellite/backyard TVRO (television receive only) market has developed because consumers can buy a receive-only dish for $1000–$1200 and receive a host of cable or broadcast programming feeds directly from the domestic commercial Fixed Satellites in so-called C-Band orbit (in the 4 GHz portion of the spectrum). These feeds are intended for broadcast stations or cable systems but under the Cable Communications Policy Act of 1984, they can be lawfully received by consumers if they are unscrambled. Many cable and broadcast programmers now scramble their signals, with the result that the number of TVRO owners, after reaching 1.8 to 2.0 million in 1987, is now growing only at about 300,000 annually, with most purchasing descrambling devices and paying monthly for the services received.

Both radio and television are thus services of growing abundance. Seventy-one percent of U.S. households now receive nine or more TV stations, as compared with only 8 percent in 1964.[3]

The Present Statutory Scheme

The Communications Act of 1934 reaffirmed the public trustee concept for U.S. broadcasting.[4] Radio broadcasting is not open to all: more people want to broadcast than there are available frequencies to do so. Congress believed that the government must therefore allocate the electromagnetic spectrum to uses and award licenses to prevent engineering chaos. In broadcasting Congress decided upon a system of short-term licenses to private entities who volunteer to serve the public interest and can then demonstrate to the FCC that their overall operation has been able to do so, thus warranting renewal for another license term.[5] At renewal the public has a right to participate by filing formal petitions to deny renewal or informal complaints, and new parties can seek to displace the incumbent licensee on the ground that they will do a better job in serving the public interest—a process called comparative renewal, as distinguished from an ordinary, noncomparative one.[6]

The FCC was given broad rulemaking powers to deal with this dynamic industry. The act itself indicates only two main aspects of what constitutes public service. First, the broadcast operation must be attuned to local needs and interests. Second, the broadcaster should devote a reasonable amount of time to covering conflicting views on issues of public concern, on the assumption that broadcasting can significantly contribute to informing a democratic electorate.[7] Further, the act makes clear that the broadcaster is not a common carrier and that the field is one of open competition.[8] This policy of open entry was reaffirmed by Congress in 1983 legislation requiring the FCC to act upon any petition or application proposing a new technology or service within one year of its filing.[9]

Implementing the Statutory Scheme

The FCC's initial and indeed most important function is the allocation of spectrum for broadcasting. In 1945 when the FCC turned to actual authorization of television, it recognized that only in the UHF portion of the spectrum could television find adequate room for a truly nationwide system of local outlets. Nevertheless, under industry pressure it began television authorizations in the limited VHF spectrum. When this proved inadequate, the commission, in 1952, did not transfer all television to the UHF, but most unwisely and over the objection of several parties intermixed the powerful and entrenched VHF broadcast operations with new UHF assignments. The new UHF stations quickly failed in this unfair competitive environment, and by 1953–54 the FCC recognized its grievous mistake. Still it did not halt the VHF grants and move gradually to UHF. It drifted for years and then, to alleviate the problem, obtained a 1962 law requiring all TV sets to be able to receive both VHF and UHF.[10] The result has been a badly flawed allocation scheme which serves well the VHF broadcasters but handicaps the UHF operator and thus the public, since the independent and noncommercial sectors are largely relegated to the UHF. Because UHF broadcasting has not fully developed, significant portions of the UHF broadcast spectrum have been reallocated to the land mobile service or shared with that service. Further sharing proposals today raise uncertainties as to broadcaster development of HDTV.

When two or more persons seek the same frequency, the FCC must resolve this conflict. The FCC first sought to grant one application, and then give the losing applicant its hearing—a patently unfair process struck down by the Supreme Court.[11] It developed comparative criteria which it misapplied, resulting in arbitrary rather than consistent results.[12] The FCC sought to remedy the process in its 1965 Comparative Hearing Policy Statement, but it quickly undermined that policy as well.[13] A scholarly study soundly concluded that "[f]or inefficient and highly questionable use of the adjudicating process, it is difficult to find a rival to the comparative hearing in a radio or television case."[14] This stultifying process has resulted from two factors—agency incompetence and during certain periods (the 1950s), the agency's deliberate effort to achieve a result, despite the criteria.

Public Interest Operation and Renewal

The FCC's function under the public trustee scheme is to insure that broadcasters serve the public interest. The commission correctly held that entertainment programming could be left wholly to the marketplace.[15] But in the critical area of nonentertainment programming—of public service—the FCC has failed miserably. The agency has not been able to deal with the question of programming quality. It is too subjective an issue and thus agency focus on quality would violate the prohibitions against censorship and in any event the First Amendment to the U.S. Constitution. The agency should have turned to the quantity of public service programming. It can hold that a licensee has rendered too little public service, for example, in local or informational programming. The FCC, however, has consistently rejected definitive quantitative standards of public service.[16]

Instead, the commission has proceeded from its 1946 *Blue Book*, which set forth its reliance on a random composite week of station operation, to its 1960 *Programming Statement*, which set forth fourteen general areas of interest, and then to renewal form and ascertainment prescriptions which require the licensee to make local contacts and surveys concerning the problems, needs and interests of the area.[17] These approaches were always vague and ineffectively implemented. In 1973 FCC Chairman Dean Burch told a broadcast industry group: "If I were to pose the question, what *are* the FCC's renewal policies, and what are the controlling guidelines, everyone in the room would be on equal footing. You couldn't tell me. I couldn't tell you—and no one else at the Commission could do any better (least of all the long-suffering renewal staff)."[18] That statement remains true for every year since the Communications Act was adopted.

This failure to adopt objective, effective standards would not be so serious if the agency were proceeding vigorously on an ad hoc basis. After all, an action taken toward one station can serve as an example to the entire industry and be just as effective as a general regulation. The FCC, however, has shirked its responsibility when confronted with the most serious violations.

For example, it sought to deny the public standing to challenge a racist licensee which had deliberately ignored the blacks who comprised 45 percent of the population in its area. The FCC gave the station a short-term renewal.[19] When the reviewing court forced the agency to hold a hearing, the FCC again renewed the station's license and was again reversed by the court, which found the record hopelessly and irreparably inadequate.[20] In another case the FCC renewed the license of a station that had patently failed to carry out its programming promises, stating that this was the last time for such forgiveness,[21] but subsequently renewed the license of a station that even more flagrantly violated the "promise versus performance" policy.[22] The commission routinely renewed an applicant promising 1 percent in public service and granted the application of another applicant which proposed 0/0 in news and public affairs—the critically important information category.[23]

In the 1980s the FCC adopted deregulatory policies for both radio (1980–81) and television (1984, 1986).[24] The FCC eliminated requirements to ascertain problems and issues, commercial guidelines (still an open issue, however, as to children's programming), and examination of programming categories (that is, local news, public affairs, and other nonentertainment). It now focuses on only one area—community issue-oriented programming, defined broadly. The commission's approach to the question of community-responsive programming emphasizes "the quality of a broadcasters' efforts, not the quantity of its non-entertainment programming."[25] Thus, in *Television Deregulation*, the FCC stressed:

> petitioners raising programming issues will have to demonstrate that an individual station is failing to address issues facing the community in its programming. . . .
>
> The focus of our inquiry in the petition to deny context can be expected to be whether the challenged licensee acted reasonably in choosing the issues it addressed in its programming. Assessing the reasonableness of a licensee's decision will necessitate an ad hoc review to examine the circumstances in which the programming decision was made.[26]

Nothing is more chilling or inappropriate than to have the FCC as the national nanny of issue decisions by broadcasters.

The FCC requires the broadcaster to file publicly at the station a quarterly list showing its most significant treatment of community issues, with illustrative programs. The commission does not require this material to be submitted to the agency itself. Instead, the FCC receives only a postcard stating that the public file at the station contains the relevant material. The commission thus relies solely upon the public to bring to its attention stations that are not performing as they promised in the arena of public service.

As public trustees, commercial television broadcasters have a duty to serve one unique audience, children. Children represent the future of the nation; young children view an inordinate amount of television—roughly twenty-five hours a week. Parents should therefore have available children's programming that not only entertains but also informs and enlightens. Some FCC chairmen have sought to obtain such programming by "lifted eyebrow"—cajoling the networks and commercial broadcasters. If effective at all, it produces minimal results and only during the tenure of that chairman. In 1974 the FCC adopted a policy as to children's TV programming: declining to adopt quantitative standards, it instead required commercial television broadcasters to make reasonable efforts to present educational or informational children's TV programming reasonably scheduled throughout the week, including a "meaningful" effort to present age-specific material.[27]

The commission never enforced this policy and after a 1979 staff study found deficiencies, opened a further inquiry to determine new steps to ensure the requisite programming.[28] But in the deregulatory mood of the 1980s a 1984 FCC Report simply repeated the television broadcaster's duty to serve the unique child audience. Rather than tightening standards, the new statement removed the obligation to render reasonable amounts of informational programming, including that of an age-specific nature.[29]

The commission also made clear that the marketplace should govern children's programming. In actions in 1984 and 1986 the FCC eliminated guidelines limiting overcommercialization in children's programming, including program-length commercials. The courts have reversed this policy, noting that the half-hour program featuring toys as characters really has commercial material and that the marketplace does not work in the case of young children, thus calling into question the elimination of the overcommercialization guidelines.[30] The issue is now to be dealt with in a new FCC inquiry.[31]

Comparative Renewal

Newcomers can seek the frequency or channel of an incumbent licensee at renewal. The incumbent has a legitimate renewal expectancy if it has substantial or meritorious service, as contrasted with service barely meeting the public interest standard.[32] The outcome of this comparative renewal process thus depends greatly on the incumbent's past record. The commission, rejecting quantitative standards, has never articulated standards in this area, and its vague policy has been the subject of severe judicial criticism.[33] The incumbent's renewal is almost automatic. The act's purpose—to spur meritorious performance—is thus thwarted. The FCC has a pending inquiry, attempting to define with greater precision the factors that would entitle an incumbent licensee to a renewal expectancy and to improve the comparative renewal process as a whole.[34]

Equal Opportunities and Fairness

After a false start, the FCC construed liberally the act's provision (Section 315) requiring equal opportunities for rival candidates to facilitate broadcast debates and press conference coverage.[35] Congress suspended the equal-time requirement for the 1960 general presidential election and found that it markedly served the public interest by offering over thirty-nine hours of free time to the candidates. But this provision, which exempted four specific news categories from equal opportunities requirements, has not been revised or updated.

The FCC developed a fairness doctrine as a necessary corollary to the public trustee concept, and Congress ratified it in 1959.[36] The doctrine requires broadcasters to devote a reasonable amount of time to controversial issues of public importance and to do so fairly—that is, to afford reasonable opportunity for contrasting viewpoints on these issues. Until 1962 the FCC reviewed compliance with the fairness doctrine only at renewal. It then shifted to a case-by-case approach —arguably a deep intrusion into daily broadcast journalism that is not necessary to preserve the public trustee concept.[37] In 1985 and 1987 reports the commission found that the fairness doctrine chilled robust debate and was not necessary to obtain media diversity in light of numbers of broadcast and new video outlets. Accordingly, it eliminated the doctrine. The merits of this decision are now under review in court, and Congress also has pledged to reverse the action.[38]

Diversification

The commission developed policies to diversify the ownership of important mass media communications in order to diversify the sources of information for the American people. The Supreme Court stressed that "[T]he underlying premise of the First Amendment is that the American people receive information from as diverse and antagonistic sources as possible" and that the public interest standard comprehends this principle.[39] Therefore, the FCC has proscribed any one person from owning in the same geographical area two stations in the same service, a daily newspaper and a broadcast station, a television station and a radio station, or a television station and a cable system. It placed numerical limits on the number of stations that could be owned nationally—initially, seven AM, seven FM, and seven television stations (no more than five in the VHF), raising the limit in 1985 to twelve of each (12-12-12). No person can own or control TV stations reaching 25 percent or more of the U.S. population.[40]

Additionally, in the late 1960s and 1970s the FCC developed strong affirmative action programs to employ minorities and women in broadcast positions and policies such as preferences in comparative hearings to promote minority ownership of broadcast facilities; tax certificates postponing gains taxes upon sale of stations to minorities; and allowing distress sale to minorities of stations in trouble because of rule or policy violations.[41] The FCC questioned these policies in 1987, but Congress compelled it to adhere to them.[42] The number of minority-owned stations remains relatively low—about two percent of broadcast facilities.

Network Regulation

Over the years the FCC has adopted complex regulations governing television network operation.[43] In the late 1970s an FCC Network Study reviewed these regulations, and television policies generally, and made sweeping recommendations, many to repeal outright existing regulations. These recommendations were strongly opposed by the program industry and some classes of stations, who benefit from network restrictions, and thus there has been little progress in removing the main restraints.

For example, the current rule forbids networks: to engage in domestic syndication, foreign syndication of independently produced programs, or share in the profits of either; or to obtain any financial or proprietary right or interest, except the right to network exhibition within the United States, of any independently produced program.[44] The Network Study found that this rule has failed to achieve the Commission's stated objectives but had disrupted efficient risk-sharing arrangements between networks and program suppliers and may have increased concentration in the program supply industry. It therefore recommended repeal, and in 1983 the FCC moved to repeal the rule. However, heavy lobbying by the film industry persuaded powerful congressmen and the president to oppose repeal, and the FCC abandoned the effort. Similarly, after one effort by the FCC chairman in 1981, the commission gave up any consideration of repealing the so-called prime-time access rule, which provides, with some exceptions, that network-affiliated television stations in the top fifty markets may exhibit no more than three hours of network or syndicated off-network adult entertainment programming during the four prime-time hours.[45]

Current Problems, Future Policies

In considering future broadcasting policies, several governing principles should be followed:

- Broadcasting policy should provide as much diversity as possible through competition and open entry. The marketplace should establish the limit on the number of electronic mass media outlets. Diversification of control of mass media communications should remain an important licensing goal, especially in the local arena. In short, "let a thousand flowers bloom."
- Federal policy should continue to provide for a system of local outlets, to ensure that local stations can address local issues, political races, and economic and cultural interests. The size of the United States, and its corresponding need for pluralism, calls for a system of effective local outlets supplying community-responsive programming. Such outlets should not, however, be protected against network competitors, existing or future, broadcast or nonbroadcast.
- Government should as much as possible opt for policy structures that militate for achievement of goals, without behavioral regulation.
- If the government continues to assign frequencies on the basis of volunteer public trustees, it should do so in an objective, effective manner.
- Governmental intervention is not without First Amendment costs or difficulties. The government should reduce such First Amendment strains as much as possible.
- If the marketplace fails to deliver any important goals, the federal government, consistent with competing budgetary demands, should afford adequate promotional assistance for noncommercial telecommunications to compensate for market failure.

- The government should not skew competition between electronic mass media competitors.

With these principles as background, the following issues deserve attention.

The Public Trustee Concept

It may seem odd, but after over a half-century of operation under the public trustee concept, the most important issue facing policymakers is its continued applicability to broadcasting. Two problems bring this issue to the fore: the fairness doctrine controversy and the implementation of the public trustee concept.

The FCC's recent elimination of the doctrine has been noted. The FCC believes that it can make a surgical strike at the fairness doctrine, leaving intact the rest of the public trustee regulatory scheme. This is clearly wrong, and, if the commission is sustained in its constitutional position, it appears likely that the entire public trustee concept will unravel.

In its 1985 and 1987 reports the FCC states that scarcity no longer sustains the public trustee licensing concept. The commission points to the large number of broadcast outlets (over 10,500), new media such as cable TV and VCRs, and the comparatively small number of daily newspapers (1700), which have full First Amendment editorial autonomy.[46] The FCC concluded in its 1987 decision that "because the fairness doctrine imposes substantial burdens upon the editorial discretion of broadcast journalists, and because technological developments have rendered the doctrine unnecessary to ensure the public's access to viewpoint diversity, it is no longer narrowly tailored to meet a substantial governmental interest and therefore violates the standard set forth in *FCC v. League of Women Voters*."[47]

This argument is incorrect on constitutional grounds. The scarcity to which *Red Lion* and *NBC* refers is that more people want to broadcast than there are available frequencies or channels and that it is indisputably still true today.[48] Thus, there are no open frequencies in the top thirty markets; if one were to open tomorrow, a dozen applicants would compete for it. This scarcity underlies the high prices paid for television stations.

There is, however, support for this FCC position by several scholars.[49] Assuming, *arguendo*, that this view were to prevail in the Supreme

Court—and only that Court can definitively decide the issue—the broadcast regulatory scheme would collapse, since with the single exception of regulation of indecent broadcasts it is based on the scarcity premise.[50]

The first ground upon which the FCC relies in its 1987 action is that fairness improperly allows the government to interfere with the editorial autonomy of broadcasters and thus chills robust, open debate. The commission claims that broadcasters avoid controversy because of the expense involved with fairness complaints and the possibility of fines or loss of license.

There is no plausible evidence to suggest that large broadcasters are chilled in the least. Indeed, networks or large broadcasters go far beyond fairness, almost always presenting contrasting viewpoints in the same program. Small broadcasters generally dislike presenting controversial programming, and the possibility of a fairness complaint may further militate against such programming. The Supreme Court in *Red Lion*, while noting the possibility of chilling effects, said that the FCC could require such programming (the first prong of the fairness doctrine). Other implementing alternatives could eliminate or greatly reduce the claimed chilling effects.

If the FCC's constitutional argument is sustained by the courts, the public trustee concept will again unravel. First, the FCC is wrong to argue that the equal opportunities requirement of Section 315 for candidates will remain unaffected. If fairness is unconstitutional, so too is the equal opportunities requirement. The Supreme Court and the Court of Appeals (per Judge Bork) have made clear that constitutionally there is no distinction between fairness and equal opportunity.[51] Indeed, equal time is even more chilling when there are many fringe party candidates and the proposed programming—for example, an in-depth interview or documentary with an extensive candidate appearance—is not exempt.

Further, it is difficult to see how reasonable access for candidates for federal office can then be sustained, since it is a gross interference with editorial autonomy and judgment.[52] In the *Carter-Mondale* case,[53] the FCC required the networks in December 1979 to broadcast political programs, even though in the network's judgment such programs should await the election year (1980) and overall there could be no question but that the networks would afford reasonable access to the presidential candidates.[54]

Even more serious, the entire public trustee renewal scheme, now pegged to community issue-oriented programming, collapses. There is nothing left of the public trustee scheme if a broadcaster can present only those views with which it agrees or for which it receives money. What the FCC is saying is that the heart of a broadcaster's obligation is to present issue-oriented programming and that in presenting such programming it can act as if it were a purely *private* entity instead of a public fiduciary. In the seminal case, *Lamar Life Broadcasting Co.*,[55] a broadcaster would present only the segregationalist point of view at the time that integration was the burning issue. As a result of court rulings holding that fairness is the sine qua non for renewal of license, the broadcaster lost its license.[56] Under the FCC approach it would be renewed as a public fiduciary for its community, even though 45 percent of the audience are blacks. So much for the public fiduciary concept. For this reason Congress in 1959 joined the two concepts in referring to "the obligation imposed upon the broadcaster under this Act to act in the public interest and afford reasonable opportunity for the discussion of conflicting views on issues of public importance."[57]

The outcome of future litigation or congressional action on the fairness doctrine is unclear. Even if the doctrine survives, the present public trustee scheme is by and large ineffectual, as it has been since its inception.

In 1960 James Landis reviewed FCC accomplishments and severely criticized the agency for "drifting" without effective plans for implementing its broadcast responsibilities.[58] In 1976 Commissioner Glen A. Robinson, echoing Ronald Coase, described the FCC's regulation of broadcasting as a charade—a wrestling match full of fake grunts and groans but signifying nothing.[59] Today the FCC renews all broadcast licenses with only a postcard before it and thus with no knowledge of public service activities. It places "near total reliance" on the public to bring to its attention inadequate performance and "incredibly" sought to deprive the public of the information necessary to participate; the court twice reversed the commission and termed its action as "beyond belief."[60] More important, such reliance on the public misplaces FCC responsibility; the public is not motivated to inspect station records of public service. The FCC, which promised random audits of stations, has never done a single one. It has never monitored the results of its deregulatory actions.[61]

Former Chairman Mark Fowler justifies such procedures because he believes the present act is unconstitutional and that television should be treated as "just a toaster with pictures."[62] He thus informed broadcasters that they had no duty to children to which they would be held responsible at renewal.[63] The FCC has thus allowed children to be the target of programs that are really half-hour commercials—an action described by Rupert Murdoch as a "prostitution of the broadcaster's function."[64]

As one final example, the FCC in 1982 ended its antitrafficking policy, stating that allowing the station to go to the "higher valued use" automatically serves the public interest.[65] A trafficker by definition seeks to increase the financial value of the station, so that it can be sold for more money.[66] The trafficker presents entertainment cartoons—not public service children's programming. It is only regulation that makes the commercial broadcaster "put profit in second place and the children in first."[67] The trafficker may cut the news staff in order to show a profit for a quick resale of the station.[68] It is absurd to assert that trafficking—getting the highest profit—serves the public interest as to nonentertainment programming, the agency's only area of concern.[69] It has resulted in public trusts being sold like "hog bellies."[70]

Even broadcasters face difficulties under the FCC's inadequate approaches to regulation. The most serious is the comparative renewal challenge, a number of which have been recently filed. The FCC has no standards to judge whether the incumbent's public service performance warrants renewal. Hearings drag on for years with detailed "fishing expeditions" and challenges which can legally be "paid off" to reduce time and costs. Comparative renewal is a mess.[71]

If the main purpose of FCC deregulatory action is to relieve the reporting burdens on broadcasters, this, too, has failed. The broadcaster keeps records of all community issue-oriented programming because its license can be challenged at renewal.[72] In addition, most broadcasters keep comprehensive records of their programs and commercials for business purposes, to bill advertisers.[73] Further, records of community issue-oriented fare involves managerial time, which imposes an additional fiscal burden on broadcasters.[74] The FCC should have simply directed the station to make available the logs being kept for business purposes (denoting the program as entertainment or nonentertainment)—a clerical activity. Instead, it has deliberately imposed an additional and unnecessary logging burden on the broadcaster.

In short, the FCC record remains a sorry picture of regulation and deregulation gone astray.

Changing the System

Several alternatives to the present system are available. Certainly, it is possible to muddle along with the present scheme, with the hope that technological developments like broadband fiber optics, high powered DBS, or digital radio developments will so change over-the-air television that the government need only act as a "traffic cop." The "rough beast" of change is already loose and will profoundly alter future broadcasting. Until that time the present approach is too flawed to retain.

While it is feasible to improve the public trustee approach, it is much better to eliminate the public trustee obligation entirely. In its place a spectrum usage fee could be substituted to accomplish congressional goals. This approach could be adopted first in radio, and then, based on that experience, in television.

Opponents of the present system are wrong to argue that there is no scarcity from a constitutional basis, but they are surely right to advance this point from a policy perspective. There are over 10,000 radio stations, with, for example, sixty-one in the Chicago Area of Dominant Influence (ADI), forty-five in New York, forty-one in Washington, etc. The stations in these cities scramble to find a niche for themselves. Most combine music and talk formats, including brief public service efforts. It is understandably difficult for them to keep track of these snippets. In short, radio has changed drastically from the pre-World War II period, and it is time—indeed long past time—to recognize this sea change. Were there no FCC, it is hard to see how a listener would notice the agency's disappearance from the standpoint of radio programming.

It is sound policy to stop calling radio stations public trustees and simply let them program as they wish. The fiduciary concept does not fit present-day radio and, if enforced, raises significant First Amendment strains. Thus, KIBE-AM, a San Francisco classical music station, bowing to FCC dictates to meet a then applicable 8 percent nonentertainment guideline, substituted a 6:00 A.M. talk show for a baroque music program to gain a 1976 renewal. It believed that by doing so it would cause the least damage to its schedule while paying lip service to the FCC standards. But it simply bewilders the audience to lose programming in this fashion. While a more sensible regulatory scheme might take care of this situation, the real question is why the government should interfere with programming at all, particularly in a market as well-served as San Francisco (thirty-five stations, many of which supply talk programs).

If the public trustee requirement is removed, important questions immediately arise: On what basis should present licensees continue to have the right to operate on their channels? Should they be allowed to operate to the exclusion of newcomers? Other entrepreneurs or minority groups will be clamoring for the right to be the licensee. They will insist that choices be made by other means in the absence of public trustee considerations.

It is not feasible to disrupt drastically the present pattern of licensees, to throw open all radio assignments to an auction or lottery. However, if the broadcaster is relieved of voluntary fiduciary obligations, a new basis for its privilege to use the frequency should be found.

Spectrum Usage Fee

A spectrum usage fee constitutes such a basis. The fee, based on a percentage of gross revenue, can be established by Congress at a reasonable figure (perhaps 1 percent for radio and 2 percent for television) not disruptive of the industry. The fee could then be the subject of a long-term contract (for example, forty years) between the FCC and the broadcaster, so that it is not subject to the vagaries of government policy changes toward the media.[75]

Congress could then use the fees to accomplish directly its goals in this area. Market deficiencies do exist in radio: commercial radio does not supply in-depth informational, cultural, or serious dramatic programming, or programming for the blind. Noncommercial radio fills these important needs, but it is inadequately funded. With a 1 percent spectrum fee, $70 million would be available, with, say $50 million for public radio and $20 million for a MESBIC to assist minority ownership of radio stations (until that goal is better met).[76]

For the first time we would have a structure that works to accomplish explicit policy goals. The commercial radio system would continue to do what it already does—deliver a great variety of formats, often interspersed with some brief messages. The noncommercial system would have the funds to accomplish better its own goals—to supply supplemental public service. In this way all First Amendment strains would be removed. A station like WXUR-FM, one of thirty-two radio stations in the Philadelphia area, would be able to present vigorous but one-sided views, and the government would not have to still any radio voices.[77] Further, only by removing the public trustee licensing scheme can broadcast journalists be placed on the same footing as print counterparts. Removing the fairness doctrine does not accomplish this, since an administration intending to chill opposition would not seek to skew fairness rulings (subject to review in court), but would try to manipulate the public trustee process, such as in the comparative renewal area.[78]

While television has fewer outlets (1314), the same approach should apply, with Congress perhaps waiting five years to see how radio deregulation works in actual operation. The approach represents a structural scheme to replace an inadequate policy with First Amendment strains with a structure that could achieve governmental goals without the strains. The sum collected for television would be $440 million at a 2 percent fee. Combined with some portion of the 5 percent franchise fee in cable television to produce noncommercial programs for both public and telecommunications access, the total could reach $600 to $800 million. This would be a substantial contribution to solving problems of public telecommunications funding. New broadcast licensees could be authorized by auction, with the proceeds then divided between fostering public telecommunications and minority ownership as in the case of the spectrum fee.

Under this approach there would be no fairness or antitrafficking rules obligation, since they are an integral part only of the public trustee notion. Congress could retain other requirements, such as sponsorship identification and prohibitions against obscene or indecent programming. It would simply enforce them by fines or forfeitures and, where appropriate, cease and desist orders.

The equal opportunities requirement could be retained, but only for paid time. The alien ownership law could also be retained, but it may be sounder policy to remove it or make it discretionary, based on reciprocity. Barring unforeseen and unlikely efforts by foreign entities to take undue control, we have no more to fear from alien ownership of broadcast facilities than we do in cable television where no bans apply. And the U.S. law, in turn, may frustrate efforts by U.S.

companies to gain strong equity positions in foreign endeavors — opportunities that are now opening for the first time, especially in Western Europe.[79]

Were a spectrum usage fee not implemented, changes in current policy are necessary. At a minimum it is wrong to proceed with vague standards which not only constitute ineffectual policy but raise serious First Amendment concerns.[80] The FCC, under existing law or pursuant to congressional direction, needs to adopt reasonable objective standards concerning public service. Those standards cannot be directed to quality as at present (and quality judgments by government are bound to be subjective); therefore, it is critical that the government approach renewal with known, objective standards — reasonable quantitative guidelines.

The standard should be directed to the bedrock areas of local and informational programming, the last defined broadly as news, public affairs, and all other nonentertainment. The government has allocated spectrum to broadcasting to obtain local outlets and to have broadcasting contribute to an informed electorate.[81] It follows that it should specify a reasonable amount of local and informational programming — otherwise the allocational scheme is for naught.

With this approach the stultifying comparative renewal process would be eliminated. It makes much more sense simply to specify the amount of local and informational programming that constitutes meritorious service. That amount can be selected by appropriately grouping the stations by market size and other factors (VHF or UHF; network affiliate or independent) and selecting a figure around the median performance. Thus, in the top markets VHF network affiliates might be required to deliver 15 percent local and 15 percent informational programming during specified hours (6:00 A.M. to midnight; prime time).

In the case of radio local programming is not a problem, so the figure might simply indicate nonentertainment programming requirements (for example, 10 percent in 6:00 A.M. to midnight period). It is not clear why the FCC has shifted its focus from nonentertainment programming to community issue-oriented programming. Nonentertainment is a broad category, and it is desirable to afford the broadcaster maximum discretion.

To allow for special "beautiful sound" formats that cut down drastically on talk (for example, classical music formats), these stations would be required to deliver only a small percentage of nonentertainment programming (for example, 3 percent). Alternately, the entire radio area might be studied to determine how well deregulatory policies are working, minus comparative renewal. Appendix B suggests how this approach might look in statutory terms. It would enhance broadcasting stability with assured public service. Renewal problems would be unlikely to arise as to overall public service.

As long as the public trustee concept is retained, fairness is required. But fairness should be implemented in a manner narrowly tailored to accomplish its goal. That goal is not perfect fairness on every issue: to achieve that would require a deep intrusion in daily broadcast journalism, and in any event it would only mean that a different audience months later heard some further presentation on an issue. The goal of fairness is to ensure that the broadcaster acts consistently with its public fiduciary responsibility. It follows that with the exception of ballot issues, the FCC should focus at renewal (or in extraordinary circumstances in a revocation proceeding) on whether the licensee has acted consistently with its public trustee duty. Further, the commission should apply a malice standard like that used in *New York Times v. Sullivan*[82] demonstrating that the licensee acted in bad faith (established by independent extrinsic evidence) or with reckless disregard of the doctrine. The commission already has the authority to adopt such a policy.

Additional Changes

Other reforms can help broadcasting respond to the needs of American democracy. To free broadcast journalism fully to do its job, equal opportunities should be applied only to paid time. Alternatively, and with less effect, Section 315(a) might be amended to expand exemptions to include any joint or back-to-back appearance of candidates or any bona fide journalistic program under the control of the licensee and not designed to advance the candidacy of any person. For general elections equal opportunities might include only significant candidates—perhaps those whose party garnered 2 percent of the vote in that state in the last election or those whose parties obtained petition signatures representing 1 percent of the last vote in the state.[83]

The reasonable access provision should be repealed by Congress as unnecessary and, in any event, poor policy (since it favors all federal candidates over state or local races that might be equally or more important). Alternatively, it should be construed along the lines of Justice Stevens's dissent in the *Carter-Mondale* case. There should be review only at renewal to determine whether, on an overall basis, reasonable access has been afforded.[84]

If auctions are not to be instituted, Congress should change comparative hearings to determine the new applicants for regular frequencies to eliminate the present lengthy evidentiary process. A board of experienced, FCC employees can more appropriately select the winner quickly and largely on the basis of diversification criterion, including minority ownership (see appendix C). This type of process is already employed in the United Kingdom. The present lottery scheme for LPTV applications is efficient and effective enough to continue. Diversification rules should be waived only upon a specific showing that the public interest thereby be served. While most communities have many telecommunications voices, the 1970 Multiple Ownership Report underscored the importance of every possible additional voice.[85] To make the rules more effective, the cross-ownership ban in the same market should be extended to cable television-newspaper ownership. These two powerful media should be in separate hands in the same community. Additionally, the ban on networks owning cable television systems should be eliminated, since changes in both arenas largely moot its need. The cable television industry is now well established, with powerful players, and the networks face increasing difficulties in holding their share of the audience against competing video challengers.

If the public trustee concept is retained, then it is not unreasonable to require owners who volunteer to be public trustees to do so for at least one license term. As noted, if a person acquires a station with the notion of selling it for profit in a year or so, he or she will cut down on public service resources in an effort to make the station more profitable for resale. Absent an antitrafficking policy, owners can safely do so, since there will not even be a renewal to be faced. Therefore, the FCC antitrafficking policy should be restored, with owners required to hold licenses for at least five years in order to remain consistent with the public trustee policy goal.

When sales do occur, a small transfer fee should be assessed to supplement the present federal contribution to public broadcasting. Federal funding has been persistently inadequate.[86] Since so much of the value of the station rests in the scarce license itself, it is reasonable in the circumstances to exact a small fee upon transfer of the commercial station. Recovering some portion of the federal largess markedly serves to promote directly the public interest in the broadcast field.[87]

Similarly, there should be renewed focus on the recommendations of the Network Study Group (December 1980). These recommendations have been noted in the prior discussion. In light of the marked increase in the audience for cable television and independent station programming, the case for removal of restrictions like the Financial Syndication rule is all the stronger.

To be consistent the FCC policy on indecent programming should be restored to that prior to the 1987–88 rulings, which expanded the scope of the FCC's indecency net beyond the "verbal shock" situation in the *Pacifica* case and eliminated a safe haven for this type of programming at 10:00 P.M., when it can be reasonably expected that parents will supervise their children.[88] The key to this area is protection of unsupervised children from the assault of indecent programming in broadcasting—a pervasive medium.[89] The FCC changed the policy from 10:00 P.M. to midnight or thereafter—and thus when the adult audience is drastically reduced—without any explanation or showing that parents cannot reasonably be called upon to supervise children's listening or viewing at the 10:00 P.M. hour. The programming involved, while powerful and offensive to some, can have serious social value and should be available to the adult audience at some reasonable time period: what is called for is channeling—not a practiced proscription during the broadcast day (6:00 A.M. to midnight).

The foregoing steps will not be a panacea, and, as always, troublesome definitional and interpretive problems will remain. Taken together, however, they would provide the basis for a rational, objective, and effective broadcast policy to implement the public trustee obligation.

New Technology and Must-Carry Rules

Two additional problems also require rethinking in light of developing changes in technology and regulatory policy. The first concerns high-definition television (HDTV), an issue of great importance to American industry and the U.S. consumer. Its development may jeopardize the American public's $80 billion investment in current television receivers and threaten the quality of the existing local broadcast system.

HDTV is a quantum leap in quality over the present system. The MUSE system developed by the Japan Broadcast Corporation (NHK) over a twenty-year period, at a cost of hundreds of millions of dollars, demonstrates this high quality breakthrough. It will be introduced in Japan in 1990; in its full form, however, it cannot be delivered by local broadcast stations using six MHz-wide channels. Its delivery system, because of additional spectrum demands of eight to nine MHz, will be by satellite, cable television, video cassettes and videodiscs, and it will require a new receiver, or at the least, a converter. Local broadcasters would thus need additional channel capacity and might have to turn off signals to the existing 130 million sets. Cable or satellite could simulcast both signals on separate channels.

It is clearly desirable policy to develop an effective and spectrum efficient HDTV system which will fit in 6 MHz channels and embodies a single set of HDTV standards for broadcasting, cable, VCRs, DBS, and other media. The critical question is whether such a policy can be achieved, or whether different, less desirable steps should be taken. That question in turn depends on technological efforts by several private industrial groups and companies—the National Association of Broadcasters, North American Phillips, the New York Institute of Technology, Mitsubishi, the Del Ray Group, and others—to develop systems to meet the above sound policy. These efforts are proceeding rapidly. They may need federal legislative assistance to ensure that antitrust laws do not hinder cooperative efforts between manufacturers and broadcasters to develop a system more compatible with U.S. goals. In the interim broadcasters have already requested the FCC not to reallocate to land mobile parts of the UHF broadcast spectrum that may be needed for an HDTV system. The FCC so far has acquiesced and has established an industry advisory group to help resolve difficult technological and regulatory issues. Proper timing is of the essence: if Japan begins successfully exporting HDTV to the United States, a de facto standard might then be set in the market.

A second pressing issue concerns FCC must-carry rules. From 1965 to 1985, FCC rules required cable systems to carry all local stations. In 1985, the U.S. Court of Appeals for the District of Columbia struck down those rules as violating the First Amendment rights of cable operators, but left open the possibility that more limited rules might pass constitutional muster.[90]

In late 1986 and 1987 the FCC released new "interim" rules, reflecting a compromise among major cable and broadcast interests. Under the agreement smaller cable systems (twenty channels or less) were exempted from the rules, and larger systems were required to devote a limited portion of their capacity (up to 25 percent) to carrying local TV signals. The new rules required cable systems to offer subscribers A/B switches,[91] and to alert them to the possibility that they might no longer be able to receive all local TV signals via cable. This program was to continue for five years, with interim must-carry rules expiring on June 10, 1992.

The Court of Appeals struck down the new rules in December 1987 on constitutional grounds.[92] The court, while noting that the FCC might adopt some reasonable regulations in this area, found the rules to burden unduly speech because evidence supporting the need for the rules was "speculative" and not "substantial"; it also ruled that the five-year duration failed to meet the constitutional requirement that restrictions be no greater than what is essential to achieve their intended purpose.

The FCC's rules were terribly flawed. It makes no sense for the FCC to take 25 percent of the capacity of a First Amendment speaker for five years for an educational program that can be carried out in five months. In revised form, however, the rules would be eminently reasonable requiring carriage of all local signals. In smaller markets with sparse populations all local signals should be carried. In larger markets, where the cable system operates with limited capacity, the FCC need only require carriage of those local signals which fulfill congressional mandates—noncommercial stations and new UHF independent stations. Where the cable system has the capacity (an increasingly likely prospect), the FCC could require that if the cable system carries one local signal, it must not discriminate against other local stations but rather must be a "master antenna" for all.

Cable's carriage of distant TV signals is, however, a more fundamental issue. Under the 1976 Copyright Law, cable has a compulsory license to carry all signals authorized by the FCC. At the time of the law's passage such signals were limited according to cable's location in a particular market size. In 1980 the FCC allowed cable to import distant signals without restriction. This skews competition for no reason. Cable is a $13 billion industry and rapidly is becoming the dominant video gateway; over sixty cable programming services are already available in the marketplace. There is no reason for the government to intervene to provide programming for cable. To further competition cable should be banned from importing television signals, except in those smaller markets in which disruption would be too great. Cable itself should welcome this development, particularly since it wants exclusivity for its own cable programming. It is in an untenable position to claim such exclusivity against nascent industries like TVRO or multichannel microwave distribution services (MMDS) when it continues to depend on a government "hand-out" from broadcasting.[93]

With the elimination of distant signals cable would remain enmeshed with the broadcast system only if it chose to carry local signals. In that event the rules described above should apply. Such rules are within the agency's authority and fully constitutional as reasonable broadcast regulation.[94]

Problems Facing TVRO and MMDS

Both TVRO and MMDS are potential competitors to cable television, but only if they can obtain a complement of popular programming. Both face difficulties obtaining the right to exhibit scrambled cable fare and, in the case of TVRO, television network programming. Some steps have been taken, but complaints persist as to pricing and availability of programming. The issue involves antitrust considerations and especially questions of vertical integration in the cable field (cable operators have interests in cable programmers).[95] There is pending legislation that has gained considerable support in Congress. There is also the need to break cable's monopoly as the video gateway for more than half of the U.S. television households; this militates for making available cable's cluster of programming services to other compatriots like TVRO or MMDS.

Conclusion

Broadcast policy remains one of the greatest importance to the American people. Its proper administration requires reexamination of basic policies long established but unworthy of retention in light of experience and changed circumstances (i.e., the public trustee concept). The commendable policy of the Congress and the FCC—open entry and competition—should be maintained, with stronger promotional policies to make up for market deficiencies even with such open entry.

Appendix A
By the Numbers: Summary of Broadcasting and Cable

Broadcasting

Service	On Air	CPs	Total*
Commercial AM	4,909	170	5,078
Commercial FM	4,045	418	4,463
Educational FM	1,314	173	1,487
Total Radio	10,267	761	11,028
FM Translators	789	444	1,233
Commercial VHF TV	538	23	561
Commercial UHF TV	481	222	703
Educational VHF TV	118	3	121
Educational UHF TV	212	25	237
Total TV	1,349	273	1,622
VHF LPTV	93	74	167
UHF LPTV	258	136	394
Total LPTV	351	210	561
VHF Translators	2,869	186	3,055
UHF Translators	1,921	295	2,216
ITFS	250	114	364
Low-power Auxiliary	824	0	824
TV Auxiliary	7,430	205	7,635
UHF Translator/Booster	6	0	6
Experimental TV	3	5	8
Remote Pickup	12,338	53	12,391
Aural STL and Intercity Relay	2,836	166	3,002

Cable

Total Subscribers	45,000,000
Homes Passed	71,500,000
Total Systems	8,000
Household Penetration**	51.1%
Pay Cable Penetration	28.6%

*Includes off-air licenses

**Penetration percentages are of TV household universe of 88.6 million

Appendix B
Draft Statute

Section 309 of the Communications Act of 1934 (47 U.S.C. 309) is amended by adding at the end thereof the following new subsections:

(a) In any case in which a television broadcast licensee submits an application to the Commission for renewal of a license, the Commission shall grant the application if it finds that—

(1) the licensee, during the preceding term of its license, rendered meritorious service, meeting the problems, needs, and interests of the residents of its service area in its program service;
(2) the operation of the station has been free of any serious violation of this Act or the regulations and policies promulgated thereunder; and
(3) the licensee continues to meet the qualifications prescribed under section 308(b).

[Note: applies only to TV; radio continues under present provisions of act and sec.(d), infra]

(b) In acting upon any application for the renewal of any broadcast station license which is filed by a licensee with the Commission under section 308, the Commission shall not have authority to consider the application of any other person for the facilities for which renewal is sought. The provisions of this subsection shall not apply to any application of any other person filed prior to ______. [Applies to both radio and TV.]

(c) Within six months of the date of enactment of this Act, the Commission, after appropriate rule making proceedings, shall define meritorious service by specifying reasonable percentages of time (i.e., within some reasonable percentile of the median in the appropriate grouping) which the television broadcast licensee must devote to local and informational programming (the latter to be defined broadly by the Commission and to include a reasonable amount for children) in appropriate time segments (i.e., 6 A.M. to midnight; prime time as defined by the Commission). Such percentages may vary depending on the nature of the service (i.e., network affiliate or independent, frequency assignment [i.e., UHF or VHF]) and market size, and may be waived in individual cases only upon compelling showing of unusual circumstances. The commission shall submit an annual report to the

Congress listing any such waivers and the compelling reasons found. The Commission shall not review the individual program topics selected by the licensee for its local and informational programming.

[legislative history would reflect:
(i) "reasonable percentile of median" affords discretion, but cannot be below 25 percent.
(ii) It is not "superior" standard (i.e., comparative), and hence is not ratcheted up, as the lowest group comes up. It can be adjusted in light of *other* markedly changed circumstances, such as the impact of new services competitive with broadcast television.
(iii) Compliance by the licensee with the percentage requirements established pursuant to this subsection would constitute prima facie fulfillment of the licensee's overall programming obligations as a public trustee. Petitioner could still show a WLBT-type case, i.e., percentages met but large minority group (e.g., 45 percent black pop.) ignored in local informational programming, or failure to comply with other sections of the Act (e.g., 315, 312 [a] [7]).]

(d) Within two years of date of enactment of this Act, the Commission shall conduct and complete an extensive survey of radio broadcast licensees (AM & FM) to determine whether its actions in *Deregulation of Radio*, 84 FCC 2d 698; 878 FCC 2d 797, 96 FCC 2d 930, serve the public interest, convenience or necessity. It shall report to the Congress the results of such survey, and what actions, if any, it proposes to take on the basis thereof.

[legislative history:
(i) Survey is to focus on nonentertainment program (and any subcategory thereof commission determines appropriate); not to include entertainment—see *WNCN*.
(ii) Survey is to take into account differing nature of radio (e.g., specialized services; large number of stations in many areas), and therefore is to reflect overall results.]

Appendix C
A Draft Modified "Comparative Licensing" Procedure

In the case of any open or newly assigned frequency involving new applicants for such frequency, the Commission would delegate its authority to an Employee Board to decide which applicant should be granted the frequency. Decisions of the Board would be final and subject to immediate judicial review unless novel questions of law or policy warranted Commission review of a Board decision.

The members of the Board would be career employees, with at least ten years of FCC experience, and could only be removed for the reasons provided for removal of administrative law judges (i.e., good cause shown to the Office of Personnel Management). Members of the Board would have to be qualified by reasons of their training, experience and competence, and be of a grade classification or salary level commensurate with their duties as Board members.

Upon the filing of mutually exclusive applications for a frequency, the Board would schedule a hearing to be held within 120 days after the designation order, at which competing applicants would be afforded an opportunity to make oral statements and respond to questions by the Board. Also, prior to the hearing, the parties would be given an opportunity to submit written data, information, or testimony (i.e., initial pleadings within sixty days; replies thirty days thereafter).

The hearing would basically provide an opportunity for each party to tell the Board why it, as opposed to a competing applicant, should be granted the license. If, at the conclusion of the hearing, the Board determined that there were facts in dispute going to character that should be resolved as decisionally significant and necessary to reach a sound judgment, the Board could hold a trial-type hearing on such facts or remand the questions involving them to an Administrative Law Judge for adjudication. [Note: There is no constitutional right to an evidentiary hearing. However, sound policy requires that the agency afford full process before deciding a case on issues going to an individual's character. There is no need for such full process as to issues like diversification or integration, and it should be precluded.] Otherwise, and in what would be the very great majority of cases, the Board would be required by law to make its decision solely on the oral and written presentations of the parties.

In deciding between competing applicants, the Board would apply criteria established by the Commission, including diversification of control of the media of mass communications and full-time participation in station operations by owners (integration). The Board would also take into account the participation of minority owners as made clear in Court cases and the Congress. [Note: See *West Michigan; TV 9, Inc. v. FCC*, 495 F.2d 921, 938.]

The commission should make clear that the precepts in the 1956 Comparative Policy Statement are sound—namely, that there should be no bidding for favor based on proposed programming percentages and that character should be explored only if a clear and compelling showing is made. Finally, the law would permit the Board to choose by lot among applicants which remained roughly equivalent after the Board's analysis and evaluation. [Note: See *Star Television, Inc. v. FCC*, 416 F.2d 1086, 1095 (D.C. Cir. 1969), J. Leventhal dissenting.]

Within thirty days of the oral presentations, the Board would have to be accompanied by a statement of reasons. The *only* grounds for a reviewing court to set aside the Board's decision would be where the court found the decision to be arbitrary or capricious, or otherwise not in accordance with law. There would be no review under a "substantial evidence" test, because the Board would not be required to issue findings of fact, but only a statement of reasons succinctly explaining its decision.

Prior to seeking judicial review, a losing applicant could choose to file a certiorari-type appeal of the Board's decision to the Commission, but only on the ground that the case presented novel and important questions of law or policy. The Commission could grant review solely on this basis, and would be barred from doing so in order to review the facts or simply to reach a judgment different from that of the Board.

This type of system has served Great Britain well in choosing between competing applicants. It will not only be much more efficient than the present system, but is fairer and will lead to better results. It is fairer because today only rather affluent groups can afford the expense of the long drawn-out comparative hearing. It will lead to better results because those who actually decide (i.e., the Employee Board) will have heard the principals and received an invaluable "feel" for the best applicant. Today, the Administrative Law Judge gets that "feel," but all too often the decision that counts is made by a reviewing body on a "cold" record.

Broadcasting and the First Amendment

Matthew L. Spitzer

Licensing newspapers is unconstitutional, but for almost sixty years the federal courts have approved the Federal Communications Commission's (FCC) licensing of broadcasters on the basis of the concept of "spectrum scarcity." Scarcity, the Supreme Court has said on several occasions, specially characterizes radio spectrum in a way that justifies licensing and content controls in broadcasting, but could never justify similar restrictions in print. The FCC has often followed the federal courts' lead and embraced the idea of spectrum scarcity to justify licensing broadcasters and imposing restrictions on content. Scarcity, it would seem, props up the entire regulatory process, a process that comprises the most important anomaly in First Amendment jurisprudence of our time.

On August 6, 1987, in its opinion in *Syracuse Peace Council*,[1] the FCC abolished the fairness doctrine. In all news accounts of which I am aware, the reporter emphasized the abolition of the requirement that radio and television stations provide reasonable opportunities for the presentation of contrasting viewpoints on controversial issues. The major impact of this decision, according to the reporters, was to allow broadcasters to be biased and unfair. But to me, the most startling part of the *Syracuse Peace Council* decision was that the FCC denounced scarcity as a rationale for differentiating between print and broadcast media. On the way to finding the fairness doctrine unconstitutional, the FCC launched a frontal assault on the Supreme Court's rationale for finding broadcast regulation *in general* to be constitutional. In short, the FCC was attacking the argument for its own existence.

The *Syracuse Peace Council* decision prompts many questions. What is happening here? Is the FCC suicidal? How should the First

Amendment apply to broadcasting? Will the Supreme Court continue to uphold the constitutionality of broadcast regulation once the commission has denounced scarcity?

Rapid technological change, mixed with changing views of the market and public interest, has produced this rather puzzling situation. Cable television, video cassette players, and alternative forms of video delivery, such as satellite master antenna television (SMATV), are now eroding the market share of traditional over-the-air broadcast television. In addition, the bright line between the print and broadcast media has blurred; newspapers and magazines use radio spectrum to help produce their finished products. And hybrid technologies such as videotext can produce written documents in electromagnetic form. These changes have called into question old, comfortable rationales for treating broadcasting and print very differently. In addition, beginning in the Ford administration in the middle 1970s and continuing through the Carter and Reagan administrations, many elected officials, voters and commentators upgraded their evaluation of the market in achieving the public interest. The renewed faith in the marketplace has produced intense interest in market-type approaches to the changing video and print marketplaces. The interest in the market has also produced a need to reevaluate the treatment of the video and print media under the First Amendment.

This essay evaluates the treatment of broadcasting from the perspective of the First Amendment, comparing it to the treatment of the print media. I will start by reviewing the reasons for guaranteeing free speech, and then analyze the application of these principles to broadcasting.

Freedom of Speech

The arguments in favor of freedom of speech and press can be segregated into two basic categories. First, there are systemic arguments —those that appeal to the utility of freedom of speech and press for producing good consequences for society in general. Systemic arguments tend to value freedom of speech and press because society is somehow "better" with them than without them. Second, there are individually oriented arguments—those that focus on the value of freedom of speech to the happiness and autonomy of each citizen.

Systemic arguments suggest that society can benefit from freedom of speech by reaping better, truer ideas with which to manage the business of life. Although it is possible that the government could theoretically "help" its citizens find true, useful ideas by suppressing some false ideas, such governmental power would inevitably be used at inappropriate times, in inappropriate ways, to reduce the efficiency of the search for truth.

Freedom of speech is indispensable to our democratic political system in several ways. First, by allowing free debate on issues of the day, voters can become well informed about their own preferences and the proposals of candidates for office. When voters cast their ballots in a society with free speech, the result should better reflect the voters' preferences. Second, part of the value of living in a democracy is exercising the right to participate in the democratic process, and freedom of speech is indispensable to full democratic participation. Third, there is a "checking" value to free speech. In particular, the press can ferret out malfeasance, illegal acts, and other violations of trust by public officials. To the extent the press is free to publish findings of such official misconduct, instances of such misconduct will be deterred. Finally, free speech may be a type of safety valve in a democratic society. If people are allowed to discuss the things that bother them, they may be less likely to take up arms to foment revolution. In short, free speech is like political primal-scream therapy, defusing the pain, anger and rage of citizens and creating a more stable society.

Individually oriented arguments for free speech start by noting that autonomy and freedom of action are core values and that the guarantee of freedom of speech and press helps to guarantee such autonomy. Such an argument, however, gives no indication of how to determine limits upon freedom of speech. Valuing autonomy does not tell us what to do when someone wishes to express his autonomy by libeling someone or publishing data about troop movements, or publishing plans for the construction of nuclear weapons at home.

Second, freedom of speech helps individuals develop their mental and moral capabilities. Speaking, listening, writing and reading are indispensable elements of thinking and making moral judgments and developing tastes and preferences. Hence, without freedom of speech, individuals cannot develop themselves fully. These arguments extend, as well, to a right not to speak. Individuals develop their mental and moral capabilities as much by choosing what not to say as by choosing to say something.

Third, in the field of broadcasting, some have claimed that there is a right to hear that usually (but by no means always) justifies restrictions on broadcasters' freedoms to say what they please. How can this be true? The basic argument is that if listeners have a right to hear, someone must have a duty to speak. In this way the right to hear is extended from a right of access to willing speakers to a right to obtain views or data regardless of speakers' preferences.[2] Thus, there is an inherent tension between the right not to speak and the audience's right to hear.

Justifications for freedom of speech do not always point in the same direction, even at a most general level. In particular, systemic arguments can justify laws that restrict the liberties that lie at the core of the individually oriented arguments. One could argue that the marketplace of ideas is flawed, either because of monopoly power on the part of some media, or for other reasons, to justify governmental intervention that forces common carrier type obligations, or free access obligations, upon the media. Similarly, one could argue that the political system is being hampered by the inefficient operation of the media, which gives insufficient access to a great diversity of political viewpoints. Such an argument could be used to try to justify restrictions on campaign spending or to force access and common carrier obligations upon the media.

There is a general consensus that, except in the field of broadcasting, the First Amendment represents a rejection of such arguments. Instead, for better or worse, systemic arguments push in the same general direction as the individually oriented arguments—in the direction of freedom and liberty. This presumption in favor of freedom and liberty supports the analysis and recommendations throughout the rest of this essay; any contrary position would use language guaranteeing "freedom of press" to justify restrictions on freedom. Because the First Amendment trumps any contrary federal statute, I will use no contrary notions of the "public interest" that arguably inhere in the Federal Communications Act.

In the law there are major exceptions to the libertarian view of freedom of speech, and broadcasting probably provides the biggest example of such an exception. In order to gain a full appreciation of the magnitude of the exception for broadcasting within First Amendment doctrine, we will review how these general First Amendment principles have been applied to the print media and then contrast these rules with institutional treatment afforded to broadcasters.

Institutional Rules for Print Media and for Broadcasters

Almost everyone agrees that it would be unconstitutional for the government to attempt to license a newspaper or magazine. This general principle has produced some rather striking corollaries. First, the state's ability to pass a special tax on the print media is quite limited. In *Minneapolis Star and Tribune Co. v. Minnesota Commissioner of Revenue*[3] the court considered the constitutionality of a Minnesota statute that imposed a special use tax on paper and ink. The court overturned the statute, in part because it appeared targeted at the print media, raising the dim specter of licensing.

As a second corollary, the government may almost never justify any prior restraint on the publication of the print media. It has never been exactly clear what a "prior restraint" is, but courts and commentators seem to agree that such a restraint would resemble the system of press licensing in effect in colonial England. This is perhaps best illustrated by the landmark case of *Near v. Minnesota*,[4] in which the Supreme Court invalidated a Minnesota law that allowed its courts to suppress the publication of newspapers that regularly published scandal or defamation.

In general, the print media enjoy great freedom to print what they want, despite justifiable sanctions for publishing false, misleading, or otherwise quite dangerous printed material. Individuals can obtain relief if a printed publication has defamed them or invaded their privacy; alternately, the United States government can punish individuals who publish official secrets without permission. In addition, the government may, in certain circumstances, regulate or ban the publication of obscene material.[5]

There are some correspondences between the treatment of print and broadcast media. If a message is found defamatory when published in a newspaper, reading that same message over the airwaves will almost certainly constitute a defamation. Similarly, obscenity receives no First Amendment protection in either the print or the broadcast media.

However, in many areas broadcasters have much less freedom than print publishers. The media's right to cover politics and elections provides an excellent example of an area in which the print and broadcast media are treated differently. Generally, no newspaper or magazine can be required to cover particular issues, candidates, or political races or to cover them in a "fair" manner. A print publication may attack or endorse any candidate without having to give anyone else equal space to respond.

These rules were tested in the famous *Tornillo* case.[6] Tornillo, candidate for the Florida House of Representatives in 1972, was criticized in two editorials in the Miami Herald, which refused to print his replies despite a Florida statute requiring it to do so.[7] In response, Tornillo brought suit in Florida State Court and the Miami Herald sought a declaration that the Florida statute was unconstitutional. After the Florida Supreme Court upheld the constitutionality of the state right-of-reply statute, the United States Supreme Court reversed the decision.

The court's opinion rested on two considerations: (1) that a contingent right of access to a newspaper might dissuade the newspaper from printing the controversial matter which triggers the right of access; preserving newspaper freedom to publish critical editorials means that the statute contravenes the First Amendment; (2) that this statute contravened the First Amendment because it violated individually oriented, liberty-based justifications for freedom of speech and press. In the words of Justice Burger, "the Florida statute fails to clear the barriers of the First Amendment because of its intrusion into the function of editors. A newspaper is more than a passive receptacle or conduit for news, comment, and advertising."[8]

It is also fairly clear that the government may not prohibit magazines or newspapers from publishing indecent, but not obscene, material as indicated in *Cohen v. California*.[9] Although the exact reach of the Cohen opinion is subject to some uncertainty, it supports First Amendment protection for printed publication of offensive, indecent material.[10]

Broadcasting receives less substantive and procedural protection from the government than print media. From licensing to content regulation, broadcasters are treated as regulatable entities rather than repositories of free speech protection.

Licensing

Broadcasters may not operate without a license from the federal government, a form of regulation which intrudes on broadcaster freedom in many ways that would not be constitutional if applied to other media. Virtually every detail of the licensing process would be unconstitutional were it applied to newspapers or magazines.

To receive a license, would-be broadcasters must apply to the FCC. Until recently, the applicants had to indicate a well-grounded idea of the needs and interests of the community in which it intended to broadcast, that they had assembled plans for proposed programming, and that the proposed programming met the needs and interests of the community. Today applicants can meet these requirements with brief, cursory statements. If there are no other applicants for the license, and if no one objects to the license grant, the FCC may grant the applicant a license to broadcast if "the public convenience, interest and necessity" would be thereby served.[11] This entire process would violate the First Amendment if it were applied to print publishers.

Interested citizens may file a "petition to deny" in response to the application.[12] The petition must offer evidence showing that the broadcast license would be inconsistent with the public interest. Representatives of the public must be allowed to appear and argue before the commission. At the conclusion of such a hearing, the FCC must either grant the application, grant the petition to deny, or take some further action.

In the face of multiple, mutually inconsistent applications for the same broadcast license, all acceptable and minimally qualified applicants must appear before an FCC "comparative hearing" to determine which applicant will best serve the public interest.[13] The Federal Communications Act of 1934 uses the standard of "public convenience, interest and necessity" to guide commission action. At comparative hearings the FCC is required to compare the mutually inconsistent applicants on all relevant criteria. In theory the applicant who would best serve the public interest gets the license.[14]

In 1965 the FCC issued a policy statement that attempted to rationalize and simplify the comparative hearing process. The 1965 policy statement[15] reduced the number of criteria to seven, with only two of the criteria being of primary importance: "diversification of ownership of the media of mass communications," reflecting the FCC's preference for awarding licenses to those who own few interests in other media; and "full-time integration of ownership with management," reflecting the FCC's preference for applicants whose owners promise to work full-time at managing the station.[16]

This entire licensing process is repeated each time a broadcaster's license comes up for renewal. The Federal Communications Act authorizes the FCC to grant licenses to radio broadcasters for a maximum of seven years and to television broadcasters for a maximum of five years,[17] after which competing applicants are allowed to file applications for the broadcaster's license. Similarly, interested citizens can file petitions to deny the broadcaster's renewal application. Renewal hearings are much the same as initial broadcast license proceedings.[18] Thus, the licensing process allows the government to intrude upon the freedom and liberty of broadcasters in ways which would be prohibited for other media.

Fairness Doctrine

Until 1988 the Federal Communications Commission required broadcasters to cover controversial issues of public importance, particularly those pertaining to his community of license, and cover controversial issues of public importance fairly, giving reasonable opportunities to present contrasting views. Thus, if a station were to broadcast arguments favoring building a nuclear power plant at a controversial site, the station would also have to present arguments against building it. During the 1970s the FCC flirted with applying this doctrine to commercial product advertisements but by 1974 had decided to apply the fairness doctrine only to other broadcast matter.

The FCC recently repealed the fairness doctrine on the grounds that it is unconstitutional.[19] However, the FCC has promised to enforce other particular content-regulating rules.[20]

Personal Attack Rules

As a corollary to the fairness doctrine, the FCC has adopted a set of "personal attack" rules. When the honesty, character, or integrity of an identified person or group is attacked during the discussion of a controversial issue of public importance, the broadcaster must notify the attacked person or group of the attack, send a script or tape of the attack, and offer them a reasonable opportunity to respond over the broadcaster's station. Although this rule is subject to a number of exceptions it can apply to a rather wide range of circumstances.[21]

This rule differs from the general fairness doctrine obligation in that the licensee retains no control over who may present the opposing side to the personal attack; the attacked individual or group has the right to make the response. In addition, a broadcaster's belief in the truth of such a personal attack, even if it can be proved with incontrovertible evidence, does not dilute the broadcaster's obligations to provide reasonable opportunities to respond. This rule can require a broadcaster to turn his facilities over to an individual who the broadcaster honestly believes has low honesty, character, or integrity if the broadcaster allows someone to speak what the broadcaster believes to be the truth during the discussion of a controversial issue of public importance.

Political Broadcasting Rules

If a broadcaster allows a candidate for public office to use his broadcasting station, the broadcaster must give all other candidates for that office equal opportunity to use the broadcasting station.[22] The FCC has thus been drawn into detailed regulation of candidate appearances on broadcasting stations, with accompanying restrictions on broadcasters' freedom and autonomy.

The FCC has also promulgated a "political editorial rule" to strengthen the equal opportunities (Section 315) rule. If a broadcaster endorses a candidate for public office, he must notify other qualified candidates for the same office, give them a script or tape of the editorial, and offer them reasonable opportunity to respond to the editorial endorsement. Violating the rule can subject the broadcaster to serious sanctions.

Together, equal opportunities and political editorial rules allow candidates opportunities to respond if a broadcaster either allows a candidate to attack his rivals or if the broadcaster endorses a candidate. The FCC has also held that when a broadcaster allows a candidate's supporters to utilize its facilities to support one candidate or attack others, the station must give equal opportunities to supporters of other candidates for the office to respond.[23] When this rule is added to the previous two, the regulatory scheme leaves broadcasters much less autonomy than the print media enjoy.

The Federal Communications Act contains one other crucial section dealing with political broadcasting. Section 312(a)(7) allows the FCC to revoke the license of any broadcaster who repeatedly fails "to allow reasonable access to or to permit purchase of reasonable amounts of time for the use of a broadcasting station by a legally-qualified candidate for federal elective office on behalf of his candidacy."[24] In essence this requires broadcasters to give candidates for federal elective office substantial access to their facilities and having done so, gives all opposing candidates a right to equal opportunities in using the broadcaster's facilities. Taken together, the rules substantially limit broadcasters' freedom and autonomy in political broadcasts.

Laws Restraining Indecent Broadcasts

Federal statutes prohibit the broadcast of indecent material. Indecency is not the same thing as obscenity; whereas obscene material must appeal to the prurient interest, there is no such requirement for indecent matter.

The FCC, responding to a complaint about an allegedly obscene Pacifica Radio, ruled that Pacifica Radio violated federal statutes prohibiting indecent broadcasting. Its ruling was upheld in a Supreme Court appeal, with the court concluding that indecent broadcast matter could be suppressed constitutionally, at least at times during which children were likely to be in the audience.

In the years following *Pacifica* most people presumed that broadcasting some or all of the "seven dirty words" of the original broadcast when children were likely to be in the audience was both necessary and sufficient to violate the rule against indecency, and until recently, the FCC seemed to concur. However, in a recent series of rulings,[25] the FCC seems to have extended the reach of the proscription against indecency in at least two ways. First, the FCC has ruled that words other than the original "seven dirty words" can be indecent. Second, including indecent words in a dramatic work for serious artistic purposes will not save the broadcast from being indecent. This last interpretation substantially extends the *Pacifica* ruling.

Children's Television

Broadcasters are subject to a number of restrictions about how they may broadcast to children. In 1974 the FCC issued an order directing broadcasters to serve the needs of children.[26] Broadcasters were directed to schedule programs for different age groups and to ensure that not all of the programs were presented at the same times. In addition, the FCC warned broadcasters to limit the total amount of commercials presented during children's programs and to mark clearly the break between programs and advertisements. The commercialization rules were needed, the FCC claimed, because children's immature mental processes precluded the competitive market from working smoothly in consumers' interests. Although the FCC has tried to jettison most of these limits on broadcasters' autonomy in children's broadcasting, the courts have rejected the effort to remove the commercialization rules.[27]

Prime Time Access Rule

In an effort to reduce "network dominance" over programming during prime time, the FCC has precluded stations within the largest fifty television markets from using more than three hours of network or off-network programming per night. However, to inspire more "worthy" programming, the FCC has made exceptions for certain types of programming. The FCC argues that the rules do not force broadcasters to show any particular type of program or any particular viewpoint. Nonetheless, a rule preventing network shows, but with exceptions for certain types of programs, can have the same effect as a rule forcing licensees to show only certain favored programs.

Cable Television

Cable television distributes video services directly to consumers without using any significant amount of electromagnetic spectrum. However, a cable television service does not have to use public streets or utility-owned rights of way to operate. As a result, cable operates under its own set of legal rules.

Cable television service requires a franchise from the local municipal authority. Although the process of franchising at the local level began without any warrant from the federal government, the Cable Communications Policy Act of 1984 ("Cable Act") now expressly allows local governments to award franchises within their jurisdictions.[28] As a matter of practice, virtually all franchising authorities grant only one franchise, thereby creating a local monopoly in cable television service. When competitive cable operators have attempted to challenge monopoly franchises, they have been resisted by local municipalities and existing cable operators.

The Cable Act sets rules governing the interaction of the franchising authority, the FCC, and the cable television operator. In particular the Cable Act requires cable operators to make varying amounts of channels available for nondiscriminatory leased access, thus treating them similarly to common carriers. In addition, the Cable Act limits the franchise fees that any cable system can be required to pay to a franchising authority. However, the act denies the franchising authority the power to set or control the rates charged by the cable operator to customers. The franchising authority can control rates for basic cable service if the cable system is not subject to effective competition, which the FCC has defined as the availability of three or more over-the-air broadcast signals in the cable operator's area. The act also sets up procedures for considering franchise renewals and provides for judicial review of some decisions.

Many municipalities resist allowing the cablecast of obscene or indecent programming by spelling out content controls within the franchise agreement or placing prohibitions on obscenity and indecency in ordinances and statutes. The Cable Act seems to contemplate just such controls, stating "[a]ny cable service offered pursuant to [leased access] shall not be provided . . . if such cable service . . . is obscene . . . or indecent." And the Cable Act also expressly preserves the right of franchising authorities to prohibit the cablecast of any material "unprotected by the Constitution of the United States."[29]

Justifying Differential First Amendment Treatment

A fundamental principle of First Amendment jurisprudence holds that freedom of expression must be determined with respect to the special features and characteristics of each particular medium of expression. For example, in a case upholding the right of a municipality to control the volume at which sound trucks operated in its community, the Supreme Court held that a sound truck's ability to interject unwanted communications into the home—impinging on the "right not to hear"—justified the regulation.[30] Differing characteristics of print and broadcasting have similarly been used to justify their different regulatory status. Most of these justifications are neither sound nor valid. Only the argument that broadcast media are more accessible to children justifies imposing restrictions on the broadcasters that could not be imposed on the print media. However, the only restriction thus justified is relegating the broadcast of extremely violent, indecent, or sexually explicit material to predesignated portions of the spectrum. Such portions of the spectrum should be receivable by radio and television sets that may be legally sold only to adults.

Other restrictions on broadcasters—including licensing, the fairness doctrine, personal attack rules, and the political broadcasting rules—cannot be justified. Nonetheless, the Supreme Court is unlikely to declare broadcasting regulation unconstitutional.

Scarcity Rationales

If you were to ask the average lawyer or judge why broadcasting can be treated as it is, he would be likely to respond "scarcity." But to the average person this would sound very odd. After all, anything worth having is scarce, and money must be spent to procure things worth having. This is true of broadcast stations, which are bought and sold. It is also true of blocks of time on broadcast stations, which are also bought and sold. Broadcast stations in big cities are worth a great deal, stations in small towns much less. Thus, broadcast spectrum is "scarce," but is scarce like any other valuable resource, including other communications resources, such as paper and ink.[31] Might other qualities distinguish print scarcity from spectrum scarcity?

Scarcity rationales have provided the basis for several Supreme Court opinions. In *National Broadcasting Co. v. United States* the majority opinion stated that "unlike other modes of expression, radio inherently is not available to all. That is its *unique characteristic*, and that is why, unlike other modes of expression, it is subject to government regulation."[32] The dissent concurred: "Owing to its physical characteristics radio, unlike the other methods of conveying information, must be regulated and rationed by the government."[33] Twenty-six years later, in *Red Lion Broadcasting Co. v. FCC*,[34] a unanimous Court again defended the spectrum scarcity rationale. Plaintiffs argued that technological advances had produced an efficient, productive use of the radio spectrum and that the existence of allocated but unclaimed UHF television stations demonstrated that spectrum was no longer scarce. The Court turned aside the challenge, claiming that the FCC's allocation of otherwise valuable radio spectrum to a valueless use did not prove the absence of spectrum scarcity.

The Court's defense of the scarcity rationale has been crucial to the licensing system, complete with public interest obligations for licensees described above. The Court argued that scarcity precludes spectrum access to everyone, and thus the government could organize the use of spectrum and give licenses to a chosen number of those who wish to broadcast. Those who are licensed receive no special First Amendment rights. Consequently, the government may require licensees to operate subject to public trustee obligations, to serve the public interest, and to share the broadcast station with others.[35]

Although the scarcity argument was absent from the Supreme Court's *Pacifica* decision in 1978, it has continued to be influential.[36] In 1984 the Supreme Court reaffirmed the scarcity theory in *FCC v. League of Women Voters*. The Court based differential treatment of the content of broadcast on the scarcity rationale, but indicated that it might reconsider the viability of the scarcity rationale were Congress or the FCC to signal that the time was appropriate to do so.[37]

The FCC subsequently held hearings on the continued viability of the scarcity presumption underlying the fairness doctrine, as well as on the effect of the fairness doctrine on broadcaster performance. The *1985 Fairness Report*[38] undercut the scarcity rationale by concluding that the public has access to many different viewpoints in the marketplace of ideas without any regulatory intervention. In addition, the report found that the fairness doctrine produces pernicious effects, including discouraging licensees from broadcasting about controversial issues of public importance, inhibiting the expression of unpopular opinion, and allowing the government to abuse the administrative process for partisan purposes. However, the FCC refused to find the fairness doctrine unconstitutional, preferring that the Congress make that decision. However, a series of cases culminated in 1987 with the FCC declaring the fairness doctrine to be unconstitutional. The events leading up to the FCC's decision are so important that we will briefly review them.

While the hearings that led to the *1985 Fairness Report* were still under way, the FCC adjudicated a fairness doctrine complaint against television station WTVH in Syracuse, New York. The commission found that WTVH violated the fairness doctrine by broadcasting several editorial advertisements in favor of constructing the nine-mile-point 2 nuclear power plant without broadcasting any balancing material. In its petition to the FCC for reconsideration, the Meredith Corporation, which owned WTVH, contended that the fairness doctrine was unconstitutional because there was no longer any scarcity in broadcasting and, hence, *Red Lion*'s approval of the fairness doctrine was no longer valid. The FCC refused, however, to rule one way or another upon Meredith's contentions, again asserting that the constitutionality of the fairness doctrine is best left to Congress and the courts.[39]

Meredith appealed the FCC's decision to the District of Columbia Circuit Court of Appeal. The court, with little patience for the FCC, ordered the commission to confront squarely the constitutionality of the fairness doctrine.[40]

On remand the FCC held that the fairness doctrine was unconstitutional because, among other reasons, the scarcity rationale underlying *Red Lion* was no longer valid: "We believe that the *1985 Fairness Report*, as reaffirmed and further elaborated on in today's action, provides the Supreme Court with the signal referred to in *League of Women Voters*. . . . We further believe that the scarcity rationale developed in the *Red Lion* decision and successive cases no longer justifies a different standard of First Amendment review for the electronic press."[41]

The FCC's decision is currently on appeal to the federal courts, and no matter what the decision, it will undoubtedly be appealed to the Supreme Court. Given the importance of this case to the differential First Amendment treatment for broadcasting, it is useful to review the scope and nature of the scarcity rationale.

There are five versions of scarcity theory: (1) static technological scarcity; (2) dynamic technological scarcity; (3) excess demand scarcity; (4) entry scarcity; (5) and relative scarcity. Each uses different forms of reasoning to justify varying policy proposals.

Static technological scarcity arguments observe that everyone cannot broadcast at the same time and on the same frequency without causing intolerable interference. This observation is usually accompanied by a reference to the chaos that existed prior to the passage of the Federal Radio Act of 1927. Paper is different, the defender of spectrum regulation argues, because if two people wish to write different things each can get some paper and write a message, without interfering with the others. The argument concludes that the only way to deal with broadcast interference is with an FCC invested with broadcast licensing powers. Because such a system of administrative licenses is economically more efficient than a system of no property rights at all, having the FCC is better than not having it.

This argument fails to justify reduced First Amendment protections for broadcasting, because the two media—print and broadcast—are both scarce. Of course, two broadcasters cannot broadcast at the same time, place, and frequency without causing gibberish, but the same is true of paper: if two people wrote on the same piece of paper both messages might be obscured. Thus, some form of property right—that is, the power to exclude others from the use of the medium—is needed to ensure effective communication.

This general point has recently been noted by the District of Columbia Circuit Court of appeals in *TRAC v. FCC:*

> [T]he line drawn between the print media and the broadcast media, resting as it does on the physical scarcity of the latter, is a distinction without a difference. Employing the scarcity concept as an analytic[al] tool . . . inevitably leads to strained reasoning and artificial results.
>
> It is certainly true that broadcast frequencies are scarce but it is unclear why that fact justifies content regulation of broadcasting in a way that would be intolerable if applied to the editorial process of the print media. All economic goods are scarce, not least the newsprint, ink, delivery trucks, computers, and other resources that go into the production and dissemination of print journalism. . . . Since scarcity is a universal fact, it can hardly explain regulation in one context and not another. The attempt to use a universal fact as a distinguishing principle necessarily leads to analytical confusion.[42]

The FCC concurred with this reasoning in the *Syracuse Peace Council* decision.[43] All of these versions of scarcity arguments assume that regulation of scarce resources is desirable. For example, if one believed that scarce goods could not be efficiently produced and distributed through a market system, then economic efficiency might suggest licensing. However, one can efficiently distribute rights to scarce resources through a market system.[44] Indeed, markets based upon private property rights distribute much that is considered scarce —diamonds, gold, silver, rare paintings. To function a market needs only a sufficient description of the circumstance in which courts will enforce the owner's power to exclude others. There is nothing inherent in radio spectrum's scarcity that prevents the creation and enforcement of an efficient market in private spectrum rights.

Much work has already been done to develop the parameters of just such a system.[45] One plausible version would create deeds specifying the frequencies, times, and signal intensities for lawful operation. The FCC has in fact implemented a regulatory version of property rights: licenses to broadcast, complete with their rights to the use of some spectrum, are bought and sold frequently. But there is nothing about scarcity or property rights that requires a regulatory agency; problems can always be handled by private rights and the courts. Because the static technological scarcity argument does not show that regulation is either necessary or more desirable for spectrum, it does not justify treating paper and spectrum differently under the First Amendment.

The *dynamic technological scarcity* argument claims that while the radio spectrum is inherently limited, one can always produce more newsprint. This argument fails to justify regulating only spectrum. In a static framework both the amount of paper and the amount of spectrum are limited; at any given time our resources and our ability to use them are quite fixed.

A dynamic version of this scarcity theory claims that one can always grow more trees, but one cannot grow more spectrum. The argument is only half correct. Increased research and development in the area of electromagnetic spectrum use might in fact produce more spectrum. In this way one might grow more spectrum, just like newsprint.

Current spectrum potential is still unlimited, for we have yet to develop the higher frequencies of transmission. For example, the recent development of fiber optic cable transmissions represents a small breakthrough in the use of visible light (which uses extremely high frequencies) for communication. Thus, the dynamic technological scarcity rationale cannot distinguish between paper and spectrum, and this version of scarcity cannot justify reduced First Amendment protection for broadcasting.

Excess demand scarcity—termed "allocational scarcity" by the FCC—lies at the heart of the argument in *Red Lion*. This rationale asserts that spectrum is different from paper in that there are more people who wish to have spectrum rights, particularly VHF television licenses, than there are rights to distribute. In contrast, there is no such excess demand for paper.

Although this observation is correct, it proves nothing. More people want VHF television licenses than can be satisfied because these valuable licenses are given away without charge. If one charges nothing for the rights to a valuable resource, then anyone who values it at all will want it. In such circumstances demand will always exceed supply. In particular, if one were to charge nothing for paper, demand for paper would certainly exceed supply, and excess demand scarcity would characterize paper, just as it does spectrum. There is no observed excess demand for paper at present because its price is determined by an unregulated market. This observation, therefore, cannot justify different First Amendment protection for print and broadcast.

The *entry scarcity argument* claims that anyone can buy some paper and a small printing press, but, because of licensing, not everyone can start a radio station. In 1982, at hearings on the treatment of the First Amendment in broadcasting, Senator Robert Packwood and Thomas Krattenmaker agreed that this argument is wrong because it compares incomparable things.[46] If one equates a tiny printing press to a citizen's band radio transmission, as one should, then would-be broadcasters can go out and start a little radio station. Although they were right to reject this version of the scarcity argument as a method of distinguishing spectrum and paper, they did so for the wrong reason. If the FCC were to allocate no spectrum for citizen use, then no one could "just start" a little radio station. However, the entry scarcity argument would still be wrong because the current differences in ease of entry are results of, not justifications for, different treatment of the media. To make a useful comparison, one must ask if, given similar legal and institutional treatment, there would still be a difference between accessibility to print and broadcast. Such a difference seems quite unlikely, particularly given the similarities in the economics of the two media.[47]

The *relative scarcity argument* concedes that both paper and broadcast spectrum are scarce, but maintains that spectrum is substantially more scarce. What might this mean? The simplest approach might be to count "units" of broadcast spectrum and pieces of paper. However, there can be no units without first defining the communications job for which the medium is to be used. To see this consider the following two situations: a parent communicating to a child in a different room of the same house and ground control communicating to an astronaut in geostationary orbit. In the parent-to-child scenario the minimal band of spectrum needed for communication on the sloppy and insensitive radios (in other words, a unit of spectrum) will be quite large, but the unit of paper needed for the same message will be very small. In the ground control-to-astronaut situation things are reversed. The minimal band of spectrum needed to communicate with the astronaut's sensitive radio receiver (the unit of spectrum) will be very small, whereas the smallest piece of paper required to send the same message must be quite large to be visible from earth to orbit.

These two examples demonstrate that depending on the job, either spectrum or paper may be more scarce. Sometimes spectrum is scarcer than paper, but other times the reverse is true. Neither paper nor spectrum, by themselves, communicate anything. Both media are part of a communication system. Paper requires machinery that can place the message upon the paper (a pen or writing press) and a means of transporting the paper from writer to reader (a truck, plane). Spectrum requires both transmitters and receivers. The nature of the communications system, for both paper and spectrum, changes in response to the job.

Given these qualifications, the relative scarcity argument gains no strength. In many instances only one medium will be suitable for a particular job. Consequently, we cannot conclude that in general either print or broadcast is inherently scarcer.[48]

In sum, none of these basic scarcity arguments—static, dynamic, excess demand, entry, and relative scarcity—provides a relevant difference between print and broadcast. Thus, none provides a justification for treating them differently. Therefore, none of these rationales supports either regulating the content of broadcast transmissions more strictly than the content of printed communications or granting broadcasting less extensive protection under the First Amendment than newspapers or magazines receive.

Since the traditional scarcity rationale fails completely, what other reasons can differentiate policies toward broadcasting from print media? Three relatively novel theories are the most likely candidates: theories based on differences in industry structure between broadcast and print media, those based directly on First Amendment values,[49] and those based on the fact that the spectrum is governmentally owned.

Industry Structure Rationales

Arguments based on differential industry structure concede that the scarcity argument fails, but that the economics of supply and demand in the print and broadcast industries are so different as to require broadcasting licensing. In particular this argument maintains that the economics of broadcasting naturally lead to monopoly or oligopoly of the airwaves. In such circumstances the concentration of power in a very small number of private hands impedes the marketplace of ideas, the functioning of democracy, and all of the individually oriented values that free speech enhances. To control this threat, broadcasters must be licensed and subjected to content controls. In contrast, the print media suffer from no similar monopoly or oligopoly problems and therefore cannot constitutionally be licensed.

For our purposes here we need note only a few points about this argument.[50] First, on its own terms it fails to justify differential treatment along media lines. Only if broadcast were characterized by monopoly in every market and print were not would licensing all broadcasters and licensing no newspapers or magazines follow from the argument. Instead, this argument suggests treating print and broadcast in a similar fashion—licensing those media in monopolistic markets and not licensing those in competitive markets. Second, licensing broadcasters and subjecting them to the system of content controls that we have today is unlikely to produce many benefits. Third, to the extent that one believes that the intent of the framers of the Constitution should play an important role in interpreting constitutional language, it is almost certain that this argument is at variance with the understanding of the framers. At the time that the First Amendment was passed, the print media operated in a concentrated set of markets in the United States. The framers intended that newspaper and magazine monopolists and oligopolists receive the benefits of freedom of the press.

Fourth, most broadcast markets have more competitors than the corresponding print markets, particularly in major American cities.[51] The FCC regards these data as highly relevant to regulation and conclude that broadcasters are entitled to First Amendment protection no less extensive than printed publications receive. However, I contend that these data are completely irrelevant. Current industry structure is a product of the FCC license allocations scheme. Because current market structures are a product of regulation, they should not be used to justify the constitutionality of regulation. The market structures of print and broadcast in similar, unregulated environments would need to be compared, to assess the force of this argument. When one compares the market structures in print and broadcast, they appear to be quite similar. This argument, which hinges upon an hypothesized difference, fails to justify lower First Amendment protection for broadcast. In sum, the argument based on industry structure is quite likely to fail.[52]

Justification Based on First Amendment Values

Lee Bollinger argues that reduced First Amendment protection for broadcasting can be justified even if there are no real differences between broadcasting and print.[53] He contends that as a matter of First Amendment theory, we should treat print and broadcast differently through partial access regulation—regulating access to one (but not both) of these media in the way access to broadcast is currently regulated. Bollinger refers to the panoply of content restrictions on broadcasting—including the fairness doctrine, the equal time provisions for personal attacks, and so forth—as access regulations, and he calls a system wherein one medium, but not others, operates under them a system of "partial" access.

Bollinger supports his position in the following way. The First Amendment is designed to serve a panoply of goals, including protecting the smooth functioning of the marketplace of ideas and the proper functioning of democracy. These values can be threatened not only by untoward government action, but also by highly concentrated private media, for in such circumstances the private media owners may deny access to individuals. By enforcing a system of partial access regulation we can increase the net satisfaction of First Amendment goals.

Bollinger argues that intangible benefits derive from a system of access regulation: "An access rule is designed to operate in the service of the First Amendment. It seeks to neutralize the disparities that impede the proper functioning of the 'market-place of ideas,' to equalize opportunities within our society to command an audience and thereby to mobilize public opinion, and in that sense to help realize democratic ideals."[54] This description of the benefits of regulation can be divided into access and diversity. Access refers to a speaker's ability to address an audience—"opportunities within our society to command an audience." Diversity denotes the multiplicity of offerings to the audience —"the proper functioning of the 'marketplace of ideas.'"

However, access regulation threatens to be very costly. It may discourage the press (both print and broadcast) from covering controversy at all, for when an outlet questions the honesty, character, or integrity of a person or group while covering a controversial subject, members of the audience must be given access to the outlet's facilities. Access regulation may also produce administrative machinery that will abuse discretion and force the regulated press into an official line, thereby interfering with the "checking" function of the press. This may start a slide down a slippery slope to more intrusive, more objectionable regulation.

Bollinger argues that a system of partial regulation may reduce costs attending access regulation. The unregulated portion of the press will continue to cover controversy. Similarly, government will be unable effectively to suppress the truth because the unregulated sector will continue to provide the information. In general the unregulated sector of the press will provide a competitive prod to the regulated sector, thus preventing the regulated sector from giving in to government desires and serving as a reminder of the dangers of intrusive regulation.

We have treated broadcast as the regulated medium, Bollinger argues, but we need not continue to do so. Congress should be allowed to reverse its field and regulate newspapers, at least to some extent, if it stops regulating broadcast.[55]

Bollinger's argument would not lead to licensing one of the media and leaving the other free.[56] Regulating all broadcasters but leaving printed publications free skews the distribution of First Amendment values in favor of those who strongly prefer one medium over the other. For example, people who are illiterate strongly prefer broadcast and are thus confined to the values of fair but homogenized communications. However, those who either live in areas unserved by broadcast or who do not watch television, may be confined to interesting but biased print publications because none are subject to the fairness doctrine. These effects are crucial because millions of people cannot read and many others do not own a television set.[57]

Bollinger's argument suggests creating two classes of broadcasters and of print publishers. Every area would have some licensed newspapers and broadcasters, subject to content controls, and some unlicensed, free from controls. Bollinger's proposal thus supports establishing governmental common carrier newspapers and common carrier broadcasting stations to provide access and diversity for speakers, writers, and consumers. It is reasonable to support creating a class of common carrier broadcasters, particularly if they were to operate next to privately owned broadcast stations. However, such a proposal does not imply broadcast licensing or controlling the content of transmissions. Indeed, such a system would be quite the antithesis.[58]

If we make our theory somewhat more realistic, and ask how free markets and regulation would be expected to work in practice, it seems likely that regulation would impede First Amendment values more than a free market system would. In a truly competitive market with several independent media outlets, natural rivalry between competing publishers and competing broadcasters will lead to access and diversity. It is only in concentrated markets—those with only one or a few broadcasters—that access or diversity suffer. In particular, in a monopoly broadcast market, the monopolist might attempt to further his own political, social or moral beliefs by denying time on the air to those who hold different beliefs. In this way he could extract not only monopoly profits, but exercise power over his community. It is realistic to assume that a monopolist would wish to use all means at his disposal to maximize his own income and power.

However, there is no reason to believe that regulation with controls would improve matters. To understand the current regulatory system, we must be realistic about motivations and behavior in that system: elected federal officials are interested in power, reelection, and ideology;[59] FCC bureaucrats are interested in gaining expertise about the industry, pleasing powerful politicians (especially those on oversight committees), and regularizing relationships in the industry and interest groups;[60] broadcasters care primarily about maximizing profits and then about shaping public opinion.

Given these diverse incentives, what should happen? First, we would expect politicians to restrict broadcast spectrum to make broadcasting licenses very valuable. Broadcast licenses would be allocated according to vague criteria which left a great deal of discretion to the licensing agency. These valuable licenses would be given away without cost to broadcasters who might become pliant as a result. Politicians would attempt to intervene to ensure that friends were favored over political enemies and, through the FCC, would attempt to shape the content of broadcasting. These efforts would be directed primarily at political speech, but also at the moral tone of broadcasting.

Regulators, understanding fully the desires of politicians, would try to implement their desires. Broadcasters, on the other hand, would be willing to alter broadcast content to avoid the possibility of protracted hearings and litigation before the FCC and the courts, as well as the possibility of losing their extremely valuable broadcast licenses.

In sum, neither access nor diversity would be served. The marketplace of ideas, the functioning of democracy, and all individually oriented rationales for freedom of press would be ill-served.

Evidence from the past sixty years suggests that such realism is accurate. There is strong evidence that Franklin D. Roosevelt tried to use administrative processes to prevent conservative newspaper publishers from procuring broadcast licenses during the 1930s, when a great number of radio broadcast licenses were initially granted.[61] The Eisenhower administration managed to grant television licenses in the 1950s to many Republican newspapers, but never to Democratic newspapers.[62]

President Nixon's efforts to cow the "Eastern-establishment liberal press" have been documented in many places. The Nixon administration attempted to alter the substance of news coverage relating to national politics on all three networks and used administrative processes to punish the Washington Post Company, licensees of VHF television stations in Miami, Jacksonville, and Washington, D.C., and to seek revenge for the activities of another subsidiary, *The Washington Post*.[63] Last, the Kennedy and Johnson administrations set up an extensive monitoring system to chart the activities of right-wing radio broadcasters opposed to the nuclear test ban treaty, the voting rights act, the civil rights act, and other parts of the liberal democratic agenda. By routinely filing fairness doctrine complaints with the FCC and requesting equal time to respond to opponents' programs, they were able to obtain substantial air time and to "persuade" radio broadcasters to give less time to the right-wing broadcasters.[64]

Thus, the argument based on First Amendment values fails in every way imaginable. It would make no more sense if extended to cable television. It might support the establishment of common carrier cable television systems but would not support licensing. For the most part the history of such regulation suggests that cable television would be subject to abuses similar to those in broadcasting.

Government Property Argument

In *Red Lion*, the Supreme Court briefly suggested that a government property argument might justify licensing broadcasters under the First Amendment.[65] The government, which owns all radio spectrum, allows individuals to use the spectrum by giving them licenses, but it need not do so. Therefore, it can subject licenses to conditions which may include content restrictions. In contrast, the government does not own paper and therefore has less freedom to impose content restrictions on print.

This argument cannot justify different First Amendment protection for broadcasting. The public ownership argument depends on an unsophisticated understanding of the word "own." To say that the government owns a resource is shorthand for describing the various activities the government may lawfully pursue with that resource. The government may own the national park system, but it can neither discriminate in the parks nor test atomic weapons there; more to the point the government cannot suppress speech in the national parks. Private and public rights may often restrict the manner in which the government may use resources that it owns. Similarly, because the government "owns" the spectrum does not mean that it can control what is said there. Beyond some basic traffic rules for the airwaves, the First Amendment should preclude governmental control. Indeed, we could extend this argument to show that the First Amendment precludes the government from continuing to own all of the spectrum. By owning the spectrum the government achieves precisely the power and control over communications that the First Amendment is to prevent.

There are, however, several reasons that a government property rationale might justify licensing and content-controls of the broadcast media in a future Supreme Court opinion. First, the broadcast media have been licensed for over sixty years, and it is unlikely that the Supreme Court will strike down an old social institution.

Second, there is the matter of legal doctrine. When individuals wish to gain access to government resources for the purposes of communicating, and the government resists giving the citizens the access, the courts frequently are required to resolve the disputes. When resolving such disputes, the courts usually apply the "public forum" doctrines.[66]

Traditional public fora are places, typically streets and parks, which have for many years been used as places of communication and expression by the citizenry. If the government property is a public forum, regulation of speech there is subjected to intense scrutiny. Any regulation based on content must be narrowly drawn for a compelling state interest. Some content-neutral regulations may be constitutional, if regulations are narrowly tailored to serve a significant government interest and if the regulations leave open ample alternative channels of communication.

Designated public fora are created when the state opens property for use by the public in expression. As long as the public forum is maintained it is in theory subject to the same standards as the traditional public forum. As a practical matter, however, the Supreme Court gives the government wide latitude to decide whether or not a public forum has been designated.

In nonpublic fora, like military bases, regulation of access for communicative purposes is subject to far less intense scrutiny.[67] The Supreme Court has been willing to strain hard to characterize restraints aimed at citizen views into reasonable public purposes. The Court has also been willing to accept "avoidance of controversy" as a valid public purpose—something it will not do in most other areas of the First Amendment.

The public forum doctrine contains two fundamentally incompatible premises. It appears implicitly to reject the government property rationale. The government may "own" the streets and parks in the sense that it can regulate traffic, but it may not control the content of what is said there or impose unreasonable time, place, or manner regulations. In addition, the rules pertaining to designated public fora reject the government property rationale. Although the government need not continue a designated public forum, while it does so it may not discriminate on the basis of content. Ownership of designated public fora does not imply the right to control what is done there.

However, once government property is classified as a nonpublic forum, something resembling the government property rationale seems to gain ascendancy. Although the Court claims that regulations on speech must be reasonable and that the regulations may not be motivated by opposition to the speaker's message, this rule has little bite.

How does this analysis apply to radio spectrum? My rejection of the governmental property rationale for reduced First Amendment protection for broadcasting may stand on shaky doctrinal ground. While doctrines pertaining to traditional public fora may support my analysis, the underlying rationale for the treatment of designated public fora and nonpublic fora implicitly affirms the government property rationale.

More specifically, public forum doctrines could be applied directly to the claims of an individual wishing to use radio spectrum. If a disappointed applicant for a broadcasting station were to bring suit, claiming that all current rationales for reduced First Amendment broadcasting protection fail and asking that licensing and content-controls be declared unconstitutional, the Court might well respond in the following fashion:

> First, it is true that all existing rationales for treating broadcasting differently under the First Amendment fail. However, the government owns all of the electromagnetic spectrum. Electromagnetic spectrum has not been a traditional public forum, and because the government's system of licensing and content-controls precludes any inference that the airwaves have been opened to the public, the electromagnetic spectrum has not been designated a public forum. Therefore, the electromagnetic spectrum is a non-public forum, subject to whatever reasonable regulations on speech and access the government wishes to promulgate. Licensing is a reasonable way to preclude interference, and content-controls are reasonable as well. Therefore, the existing system of licensing and content-controls is constitutional, as long as no one is precluded from gaining a broadcasting license based upon his viewpoints about issues that will be the subject of his broadcasts.[68]

In contrast, the government property rationale cannot justify licensing cable television and controlling content on the cable. No one thinks that the government owns all of the coaxial cable and the only needed resources that the government does control are public streets —traditional public fora. Reasonable time, place, and manner restrictions would be lawful, but that is about all.

Indecency

The Supreme Court relies upon one other set of justifications for controlling the content of broadcasting more strictly than print. According to the Court, the First Amendment tolerates stricter restrictions on indecent broadcast materials than on indecent printed matter. Its concerns about privacy and the effects of broadcast materials on listener behavior do not justify licensing, but do argue for controlling the dissemination of sensitive material over the airwaves. Such reasoning, however, is not persuasive.

These rationales justify reduced First Amendment protection for broadcasting in only one way; indecent material (including sexually explicit and extremely violent matter) may be zoned onto a small section of the spectrum, and only those over some critical age (eighteen years?) may be allowed to purchase receivers that can decode that portion of the spectrum. Otherwise, I believe these rationales fail utterly to justify different First Amendment treatment for print and broadcast.

The first rationale for distinguishing print from broadcast is found in Justice John Paul Steven's opinion in FCC *v. Pacifica Foundation*,[69] the "seven dirty words" case. The Court held that it was constitutional to punish a radio station for airing "indecent" matter, although a printed version of the monologue could not be suppressed constitutionally. Justice Stevens tried to explain the distinction:

> The reasons for these distinctions are complex, but two have relevance to the present case, First, the broadcast media have established a uniquely pervasive presence in the lives of all Americans. Patently offensive, indecent material presented over the airwaves confronts the citizen, not only in public, but also in the privacy of the home, where the individual's right to be left alone plainly outweighs the First Amendment rights of an intruder.[70]

This "pervasiveness" rationale, anchored in privacy, suggests that only broadcast materials are "uniquely" accessible, particularly in the home. To gain access to television or radio all one has to do is reach out and flick a switch, but to gain access to print one has to walk down to the corner bookstore.

This argument compares fundamentally different situations; if we compare similar scenarios the differences between print and broadcast disappear. Printed publications are easily accessible and available in the home, including material that has sexual or violent content. Radio and television communications can be received in the home only if one already owns a radio or television; similarly, printed publications will not ordinarily be delivered unless they first have been ordered.

The symmetry between print and broadcast makes it unnecessary to decide, for the purposes of this chapter, whether Justice William Brennan's argument in the *Pacifica* dissent that the decision to turn on the radio equals a "decision to take part, if only as a listener, in an ongoing public discourse"[71] is correct or not. If Justice Brennan is correct, then one could say the same thing about subscribing to *Penthouse* magazine by mail. If he is wrong, then government may invoke privacy interests to control the content of printed publications. Therefore, this accessibility argument cannot justify different First Amendment protection for print and broadcast.

A second accessibility argument presumes listener inability to weed out unwanted material from his or her viewing diet. Again, Justice Stevens: "Because the broadcast audience is constantly tuning in and out, prior warnings cannot completely protect the listener or viewer from unexpected program content. To say that one may avoid further offense by turning off the radio when he hears indecent language is like saying that the remedy for an assault is to run away after the first blow."[72] One must question whether Justice Stevens has distinguished broadcast from print. Do readers ever encounter unwanted, indecent printed material? Certainly they do outside their homes. In public people are constantly exposed to various unwanted broadcast messages. The primary difference between print and broadcast seems to be the relative cost of scanning broadcast stations to determine content versus that of ordering magazines at random to find out what they contain. Scanning broadcast is much cheaper, so one might expect listeners or viewers to encounter much more unwanted material than would readers. This difference could justify a broadcast requirement that all stations that broadcast sexually explicit matter (or other material deemed objectionable) locate in a small, well-defined section of the spectrum, so that scanners could avoid such matter. If all radio stations carrying sexually explicit matter were located between 535KHz and 600KHz, someone scanning the dial could avoid this section of the radio spectrum. This would parallel segregating "adult" (sexually oriented) books into separate bookstores or separate sections of bookstores.

Perhaps one must regulate broadcast more strictly than print because

> broadcasting is uniquely accessible to children, even those too young to read. . . . Other forms of offensive expression may be withheld from the young without restricting the expression at its source. Bookstores and motion picture theaters, for example, may be prohibited from making indecent material available to children. . . . The ease with which children may obtain access to broadcast material . . . amply justify special treatment of indecent broadcasting.[73]

The quoted language implicitly refers to at least two different arguments. First, it assumes that broadcasting indecent material is more pernicious than printing it because broadcast is more accessible to children than print. Second, it assumes that the state has a quasi-parental interest in ensuring that children are reared correctly. Because broadcast is uniquely accessible to children, the state may regulate broadcast content more strictly than print. The first argument might justify extra safeguards on the broadcast of violence, but the second argument does not justify differential First Amendment treatment of print and broadcast. The only extra safeguard that would be justified, however, would be the segregation of sexually explicit or violent matter onto a specially designated portion of the spectrum and the restriction of the purchase of receivers for that portion of the spectrum to adults.

None of these arguments suggest any sort of regulation of content on cable television. Sensitive material is already segregated onto particular channels (*Playboy*, for example) that must be specially ordered, and the Cable Act of 1984 requires that cable television services include locking devices for any consumers who desire them. Thus, privacy and parenting have already been protected on the cable.

Review and Implications

Let us review our discussion thus far. First, we found that the passage of the First Amendment represented arguments in favor of freedom and against government control. Second, we examined how these general arguments have worked themselves out in the specific context of freedom of press for the print media and freedom for the broadcast media. We found that whereas licensing the print media and directly controlling content was almost entirely forbidden, these same practices have been approved in the context of broadcasting. Third, we considered justifications for this reduced level of First Amendment protection for broadcasting. None of the rationales we considered justified licensing, and only a few seemed to justify differential control on content. In particular the arguments about scarcity, about differences in the structures of the industries, about First Amendment values, and about sex and violence, failed completely to justify licensing or different content controls. The arguments about access, privacy, and children also failed to justify licensing but might justify as constitutional a very limited zoning of indecent, sexually explicit, or extremely violent material over the airwaves. This left only the government property rationale, and it similarly ought to fail as a justification.

What does the failure of all of the rationales mean in terms of permissible First Amendment treatment of the broadcast media? One possibility, suggested by the FCC in the *Syracuse Peace Council* opinion, is that while the fairness doctrine may be unconstitutional, the federal government may continue to license broadcasters to prevent intolerable interference.[74] In the words of the commission, "[t]hat spectrum scarcity should be irrelevant for First Amendment purposes does not affect its relevance to the Commission's allocational and licensing function. The Commission, of necessity, considers spectrum scarcity in making its allocational and licensing decisions."[75]

Part of the FCC's argument is correct. Because specific content controls on the broadcast media, other than those on indecency, have been justified by the Supreme Court on grounds of scarcity, and because the scarcity rationale and all likely replacements for it fail, the justifications for the differential First Amendment treatment of broadcasting collapse. The unjustified content controls would include, almost certainly, the fairness doctrine, the personal attack rule, the prime time access rule, and the political broadcasting rules, described above.

However, it is not at all clear that the collapse of all of the rationales can be confined to these specific regulatory doctrines. The constitutionality of licensing may be called into question. Licensing impinges on crucial First Amendment values. First, the process of licensing determines which communities will receive broadcast signals and who has the right to send those broadcast signals. The process has been subject to political manipulation. And even were licensing free of political manipulation, the free flow of information within the marketplace of ideas and the smooth functioning of democracy would be crucially affected by the existence of broadcasting outlets in particular communities. Further, individually oriented arguments in favor of freedom of speech and press are crucially implicated when the FCC decides to grant a license to one of a number of competing applicants. All of these functions have been denied, for better or worse, to the government in the case of newspapers and magazines. The government's justification for performing these functions in the case of broadcasting, as well as its First Amendment warrant for doing so, has been scarcity. If scarcity and all of its likely replacements fail, licensing fails with them.

Were the Supreme Court to adopt the government property rationale, Congress could choose to keep the current system—still the worst solution of all. It provides too many opportunities to manipulate the broadcasting content, restricts entry by those who wish to broadcast, controls the geographic areas in which broadcasters may operate, and keeps important and controversial issues off the airwaves. None of this can be justified.

If the Supreme Court were to reject the government property argument along with all of the others and hold broadcast licensing unconstitutional under the First Amendment, the Court would have to order the federal government to promulgate a regime to allocate rights to radio spectrum that did not rely on administrative judgment and discretion.

Allocating Spectrum Rights

As suggested earlier, both economic efficiency and First Amendment values are protected in a market system in spectrum in which potential broadcasters can buy and sell property rights to use the radio spectrum at a certain time, place, frequency and strength. Rights would be owned like any other property rights. Such rights would doubtlessly spawn institutions similar to those for land, in which brokers facilitate the purchase and sale of blocks of spectrum.

The spectrum should be zoned in such a way as to eliminate unwanted exposure of sexually explicit or violent material, especially to children. A particular part of the spectrum should be set aside for those stations carrying sensitive matter, and only purchasers over eighteen years of age should be allowed to buy receivers to decode sensitive portions of the spectrum. These receivers can be sold with an optional locking device that is similar to locks on cable television control boxes to inhibit further access to special spectrum zones.

Moving from the current system to a property rights system in spectrum should not be difficult. Perhaps the simplest way would be to sell off the spectrum to the highest bidders. This would parallel the method used to dispose of government property auctioned at sales sponsored by the Government Accounting Office. Auction profits could either be generally used by the federal government—for example, to reduce the federal budget deficit—or to augment broadcasting by establishing a trust fund for public broadcasting. Such a process is likely to incur the opposition of existing broadcasters, but this is hardly reason not to change systems.

Alternately, the spectrum could be allocated to private parties through a lottery process, similar to the lottery currently used for low power television. The lottery could be constructed to give groups deemed particularly needy—low income groups or racial minorities—extra chances in the lottery. As a last transition policy, we could use a version of first come, first served—in other words, we could give out the spectrum rights to the first applicants for those rights. Such a system is neither as modulated nor as effective as auction or lottery.

The least defensible plan for placing spectrum property rights into private hands would be to give property rights to broadcasters who currently hold licenses. Each license currently defines a set of rights in spectrum. That definition could produce a permanent "deed" for their portions of the spectrum. Broadcasters would certainly support this process, as it represents a massive transfer from public coffers into their pockets.

If full privatization of the spectrum is too difficult to organize fully, it may be useful to start with radio and then extend the process to television—a gradual experiment with full First Amendment rights for broadcasters.

In a fully private system there would be no need for a fairness doctrine, for political broadcasting rules, for personal attack rules, or for any other regulation currently existing in the First Amendment realm. Of course, the federal government would remain free to subsidize directly programming that it thought necessary, such as quality productions for children.

If a private property rights in spectrum idea fails to gain acceptance, other, less attractive options might still further First Amendment rights for broadcasters. As mentioned earlier, it may be unconstitutional under the First Amendment for the government to own all of the spectrum. Alternate forms of ownership are less likely to offend the First Amendment:

Perpetual License

The government could grant a perpetual license to broadcasters to use the spectrum, equivalent to a 1,000 year lease. The licensee would have complete freedom to assign or sublet his license. This approach could be used either with or without a spectrum fee paid to the government. Such fees would have the salutary effect of requiring those who utilize resources to pay for them; however, government power to raise fees would be subject to control. If the government could raise fees to individual broadcasters, then it could also punish broadcasters for unpopular content—a weakness similar to that in the current system. Nonetheless, First Amendment regulation would not be needed.

Henry Geller proposes eliminating the public trustee model and issuing much longer licenses to broadcasters who are required to pay spectrum fees to the government. These licenses would last approximately forty years. Geller's proposal strongly resembles the perpetual license system. The main difference is that his proposed license term is short enough to worry about a renewal scheme. License renewal by the government provides the same opportunity for punishing broadcasters that the current system provides. For this reason the shorter license proposal is inferior to the perpetual license system.

Common Carrier Broadcasting

A common carrier broadcaster would provide a broadcast channel available to all program distributors on a tariffed, nondiscriminatory basis, similar to cable television leased-access channels. Because the program distributors would need no license at all, they would be free to operate within the general bounds of the law on libel and copyright. Because common carrier broadcasters would be denied the right to discriminate on the basis of content, there would be no incentive to revoke the common carrier's license or punish it in other ways for providing time to a politically unpopular program.

Common carrier broadcasters should not comprise the entire industry, but should operate side-by-side with private broadcasters. A system of common carriers operating next to private broadcasters has much to recommend it. There would be no barrier to private broadcasters entering the field, but the common carrier would help to guarantee an outlet to those with unpopular views. However, such a system does have drawbacks. Regulating the rates and performance of a common carrier consumes considerable public resources and is often not very effective in keeping rates down; in addition, the common carriers would probably require subsidy. As mentioned earlier, there is an irresistible temptation to limit the content that a common carrier can carry. Many restrictions on the U.S. Postal Service and on telephone companies have been enacted into law in the last sixty years. For these reasons a fully private system would be preferable to creating an entire industry of common carriers.

Cable Television

Cable television is currently caught between the organizational and regulatory models of newspapers and telephones. In terms of the First Amendment either model would be better than the current system.

The newspaper model is probably the best from the standpoint of the First Amendment. According to this model, cable television should not be franchised at all since a franchise serves no justifiable purpose and the threat of franchise revocation allows local franchising authorities to manipulate critical programming. Reasonable rules regarding physical infrastructure can be developed by municipalities. As a corollary, municipalities should not be allowed to regulate cable television rates, access to their facilities, or the content of their transmissions.

The telephone model differs considerably from this. The telephone company is run as a common carrier, with nondiscriminatory leased access to all who wish to use the telephone. It has no right, in general, to control the content of individuals' conversations. Were cable television run in an analogous fashion, all of the channels on a cable television system would be leased to programmers on a non-discriminatory basis. Cable television systems would probably be franchised monopolies, owned by local governments or regulated by them. Rates to consumers would be controlled by the local government.

Why would such a system be good public policy? The answer must be that cable television is a natural monopoly. Because of continually declining costs as a cable television system gets larger and larger, only one cable television system operates economically in any locality. If a new entrant were to compete with a large, entrenched cable television system, the new entrant's higher costs would prevent it from gaining a foothold. Since there will be only one cable television firm, we might as well regulate it so as to control the monopolistic effects on the marketplace of ideas.

There are three problems with such an argument. First, as the *Tornillo* case strongly suggests, the natural monopoly argument may be irrelevant to the First Amendment. In *Tornillo* the Supreme Court rejected an analogous natural monopoly argument applied to newspapers and relied on libertarian arguments to hold that there can be no forced right of access to newspapers. If *Tornillo* were extended to cable television, the natural monopoly argument could not justify making cable television systems into common carriers.

Second, it is not clear that all, or even most, cable television systems are really natural monopolies. There is some evidence suggesting that some systems may be, but the evidence is not conclusive. Third, even if there is a natural monopoly in cable television, and even if natural monopoly is relevant to the First Amendment, it is not clear that monopoly franchising and regulation is the best way to deal with the problem. Regulation is notoriously poor at controlling rates to consumers and guaranteeing good service. It would be preferable to rely on competition from potential entrants, over the air broadcasters, tapes, and satellite distribution to control the behavior of cable television systems.

In sum, the telephone model is far inferior to treating cable television systems like newspapers. Repealing the Cable Act and outlawing cable television franchising would favor the newspaper model, with all attendant First Amendment benefits.

Conclusion

The current system of licensing broadcasting and controlling its content ought to be declared unconstitutional. It is by no means clear, however, that the Supreme Court will do so. The Court has signaled the FCC that it would be willing to reconsider the scarcity arguments for controlling broadcasting, and the FCC has asked the Court to do so. But even if the Court were to find that the scarcity rationales fail, the Court might embrace the government property rationale to justify the status quo.

To facilitate privatization the Congress should turn the radio spectrum over to private hands, allowing private broadcasters to operate free of administrative control. Cable television should not be subject to franchising of any sort. If Congress takes these steps it will help to guarantee that marketplace of ideas values, democratic process values, and individual liberty values will all be protected. The First Amendment requires no less.

Public Broadcasting and Federal Policy

John Carey

To develop coherent federal policies for public broadcasting, it is important to have a sound perspective on the context within which public broadcasting functions. This perspective is surprisingly difficult to achieve. At first glance, public broadcasting appears to be very simple. Most people believe it to be a mirror image of their own viewing and listening experiences. However, an examination of research data about public broadcasting quickly dissolves this image as too narrow in focus, since public broadcasting serves different individuals in quite different ways.

At second glance public broadcasting appears to be complex and elusive: many institutions serving disparate functions. This perspective is particularly strong in a setting such as Washington, D.C., where many voices present different portraits of what public broadcasting is and what it should become.

Added to these problems for a policy analyst, there is a need to sort out federal policy issues from state and local issues as well as policy concerns that belong appropriately within the public broadcasting community. Federal policy discussions often encourage a centrist view of the world: a perception that federal policy can and should deal with all important issues that affect public broadcasting. To develop policies for the future of public broadcasting, it is essential to understand its past. This essay first examines the historical and structural context for public broadcasting. Where did public broadcasting come from and how is it organized? Following this, the essay focuses upon the programming and audiences for public broadcasting as well as the mission that was set down by the Public Broadcasting Act of 1967. After building this contextual map of public broadcasting, current policy issues and future needs are addressed.

In the discussion which follows three themes emerge. First, the heart and soul and power of public broadcasting are at the local level, where a station or state network delivers services to citizens. Second, public broadcasting's reason for existence is education, broadly defined. Third, public broadcasting represents far more than "good programming." It is a vital component in the telecommunications infrastructure for the nation, one that will have growing importance in the emerging information age and information economy.

Early Years

The evolution of public broadcasting parallels the development of broadcasting itself. In 1917 station 9XM at the University of Wisconsin broadcast daily weather bulletins to several hundred farmers and "wireless" buffs in the greater Madison area. The station subsequently became WHA radio and has continued broadcasting to this day.[1]

Many education institutions followed the University of Wisconsin in utilizing radio for education. By 1923 10 percent of all radio stations were owned by education institutions.[2] These were called educational radio stations; the term public broadcasting did not come into common use until the 1960s. The stations operated independently and served the needs of the local college or nonprofit licensee and the nearby community. Programming generally included some formal instruction as well as informal adult education, drama, music and public affairs.

The 1920s and 1930s were a difficult period for educational radio. Many stations lacked the personnel or skill to create effective educational programming and nearly all stations lacked adequate funding. As a result, more than half of the stations launched during this period had ceased operating or transferred their license to a commercial group by the end of the 1930s.

The 1920s and 1930s also marked the beginning of the long struggle by public broadcasters to win support from the federal government. An important early struggle centered on the Wagner-Hatfield amendment to the Communications Act of 1934. It proposed to make all existing station licenses null and void, reorganize the assignment of licenses and reserve 25 percent of all assignments for educational or other nonprofit uses. In addition, it would have allowed educational groups to sell time on their stations to commercial groups in

Table 1 Growth of Educational Radio and TV, 1950–65

Year	Educational FM Stations	Educational UHF/VHF Stations
1950	62	0
1955	124	11
1960	165	47
1965	262	92

Source: U.S. Dept of Commerce, *Historical Statistics of the United States.*

order to gain revenue.[3] Commercial groups bitterly opposed the amendment and argued cleverly that the provision to generate revenue for educational broadcasters would only add to the commercialization of radio. Following a sharp debate, it was agreed that the issue needed further study. The Wagner-Hatfield amendment was defeated, the Communications Act of 1934 was passed, and the problem of what to do with educational broadcasting was assigned to the new Federal Communications Commission (FCC) created by the act.[4] The FCC studied the issue and concluded in 1935 that channel reservations for educational broadcasting were not warranted.[5] Subsequently, the FCC did adopt a policy of reserving channels for educational broadcasters, but most of the assignments were on the other side of the (spectrum) tracks. In 1939 and again in 1945 the FCC reserved many FM channels for educational broadcasting; however, few citizens had FM receivers at that time. In 1952 the FCC reserved more than 200 television channels nationwide for educational broadcasting. Two thirds of the channels assigned to educational broadcasting were UHF, but very few television sets sold in the 1950s had UHF receivers. Nonetheless, educational broadcasting received a large share of the spectrum real estate.

The FCC did not resolve the issue of funding for educational broadcasting. Federal funding was not addressed in any significant way until the 1960s (see table 1).

The first educational television station was built in 1953: KUHT, licensed to the University of Houston and the Houston Independent School District. Though production quality in the 1950s was primitive by today's standards, the content of educational television was similar: cultural programming; K-12 instruction; adult education; children's programming; business discussion shows; and some home how-to-fix-it programs.

Two critical issues for educational radio and television during the 1950s were sources of funding and distribution of programs. Educational broadcasting, particularly television, was strongly supported during this period by the Ford Foundation. Between 1951 and the late 1970s the Ford Foundation committed nearly 300 million dollars to educational broadcasting. During the 1950s it was the major source of funding from a national source.[6]

Program distribution and the beginning of a national interconnection among stations may be traced to 1949 when the National Association of Educational Broadcasters (NAEB) launched a program service that "bicycled" (that is, sent through the mail) radio materials to stations. In television the first national source of programming and distribution was the Educational Television and Radio Center (ETR), created with funding from the Ford Foundation in 1952. ETR subsequently dropped its radio service and changed its name to National Educational Television (NET). ETR and later NET became the major producer and distributor of national television programs during the 1950s and 1960s.

The Modern Era Begins

It may be argued that the modern era for public broadcasting began in 1964 at a meeting called together by the NAEB: the First National Conference on the Long Range Financing of Educational Television Stations. The meeting set the groundwork for a national commission on public television, the Carnegie Commission, which began its work in 1965. The commission conducted an extensive assessment of educational television and found a patchwork quilt of stations with some common goals but mixed capabilities and inadequate funding. In 1967 the commission made twelve recommendations. The two principal recommendations were greatly expanded federal support for public television and the establishment of a Corporation for Public Television that would foster the growth of public television, administer government funding for programs and interconnect public television stations. The commission was largely responsible for changing "educational television" to "public television." The change in word-ing was intended to communicate "education" in the broad sense of informational and cultural programming as well as instruction.

As the commission's recommendations made their way through Congress, a few major changes and several minor ones were added. First, radio proponents succeeded in adding radio to the provisions of the act and changing CPT (Corporation for Public Television) to CPB (Corporation for Public Broadcasting). Second, a recommendation to fund public broadcasting through an excise tax on the sale of new television sets was dropped. In addition, there was much debate on how to ensure that the federal government, while providing funds for public broadcasting, would not interfere in the creation of content. CPB was assigned the role of protecting the independence of public broadcasters from interference. The Public Broadcasting Act of 1967 was passed by Congress and signed by the president, technically, as an amendment to the Communications Act of 1934. It established that federal support for public broadcasting was appropriate and, further, indicated that the federal government should help make public broadcasting available to all citizens.[7] In addition, it provided that stations develop a means to share programming, particularly programs of "more than a local nature." At the same time, the act did not in any way usurp local station control over content. Editorial judgment remained at the local station level. Neither Congress nor the administration could dictate carriage of any programming. Further, the act prevented CPB from owning any stations. In this way public broadcasting is distinct from commercial broadcast networks, which do own stations. The policy that was put in place by the act called for federal support of a decentralized public broadcasting system.

While the act committed the federal government in principle to public broadcasting and provided start-up funding, it did not solve the long-term funding problem. Start-up funding was small and public broadcasting had to return each year to Congress and the Executive Branch to petition for next year's funding. This process continues in large part to this day, although the 1975 Public Broadcasting Financing Act established, in principle, a system of advance funding for CPB.

A few additional milestones in the history of public broadcasting should be noted before considering the system that exists today. In 1969 public broadcasting established an interconnection system, using AT&T landlines and microwave paths, to transmit programming to stations. The Public Broadcasting Service (PBS) was established in the same year to operate the interconnection network, among other responsibilities. In 1970 National Public Radio (NPR) was established to operate the interconnection system among public radio stations. The land-based interconnection system was not technically robust. In 1978, after much planning, public broadcasting adopted a national satellite interconnection system. This interconnection system became a model for broadcasters and was subsequently adopted by the commercial networks.

In 1977 the Carnegie Corporation established a second national commission: the Carnegie Commission on the Future of Public Broadcasting (Carnegie II). It issued its report in 1979. However, Carnegie II's recommendations did not win the political or financial support of federal policymakers and few were adopted. Nonetheless, many of its recommendations were sound and some are considered later in this essay.

Policy Implications

For modern federal policy analysts this brief review of public broadcasting's history has a few implications. First, it indicates that public broadcasting activities and traditions preceded the development of federal policies for public broadcasting. Second, it demonstrates that education is a long-term core value in the mission of public broadcasting. Third, it shows that by tradition as well as federal policy public broadcasting is a decentralized system. And, fourth, it points out that federal policy has been committed in principle to the support of public broadcasting but has never resolved the long-term funding problem.

Public Broadcasting Organizations and Structure

The structure of public broadcasting and the organizations associated with it are complex in comparison to a commercial network or a centralized public broadcasting system such as the BBC in England. The complexity of American public broadcasting is a product of the decentralization and diversity of the system.

To understand public broadcasting it is important to examine the local station, since all licenses are held by local entities. There are four types of licensee: community; university; state; and local au-

Table 2 U.S. Public Radio and TV Stations by Type of Licensee, 1988

	Television Stations		Radio Stations	
Type of Licensee	Number	Percentage of All Stations	Number	Percentage of All Stations
State Government and Broadcasting Authorities	122	38	13	4
Independent Community Organizations	105	33	93	31
Colleges and Universities	82	25	173	58
Local School Districts and Governments	14	4	20	7
Total	323	100	299	100

Source: Corporation for Public Broadcasting.

thority. These are reasonably self-explanatory. A community licensee is an independent nonprofit organization whose purpose is to bring public radio or television to the local community. Many colleges and universities also operate public radio or television stations. A state agency can hold a license, as can a local government agency such as a school district. Each licensee is independent and controls the programming carried on the station. While stations generally carry a substantial amount of programming from national sources such as PBS or NPR, there is also diversity in the programming offered by each station. This diversity relates in part to the type of licensee and in part to the needs of the communities served by the station. In this sense there is no "typical" public broadcasting station. Table 2 shows the makeup of public radio and television stations in the United States by type of licensee.

Local stations are the core of the public broadcasting system. State, regional, and national organizations serve the local stations. At the state level there are more than ninety organizations that represent public broadcasting or have substantial relationships with stations. These include state agency licensees, professional associations that represent stations in legislative affairs, and state education departments that contract with licensees for instructional services, among others.

At the regional level there are more than a dozen organizations that represent public radio and TV and provide services to stations.[8] Some of these organizations, such as the Eastern Educational Network (EEN), are major distributors of programming. Others concentrate on developing educational services or organizing regional meetings for stations.

At a national level three principal organizations are associated with public radio. National Public Radio (NPR) is a producer and distributor of programming, well known for such programs as *All Things Considered* and *Morning Edition*. In addition, NPR operates the national satellite interconnection system for public radio stations. American Public Radio (APR) is also a major distributor of programs and has become well known as the distributor of Garrison Keillor's *A Prairie Home Companion* and *MonitoRadio*. The National Federation of Community Broadcasters (NFCB) represents community licensees, distributes programming and provides training services to member stations. Public television stations are represented before Congress and the federal government by the National Association of Public Television Stations (NAPTS). NAPTS also conducts research and planning for member stations. The Public Broadcasting Service operates the national satellite interconnection system for public television, schedules program distribution, and manages the Station Program Cooperative—a system through which stations provide funds for new productions and decide which programs will be acquired for national distribution. PBS also provides marketing and research services for stations but is not a program producer and does not own any stations.

The Corporation for Public Broadcasting serves as an interface between the federal government and public broadcasting stations, both radio and television. One principal function of CPB is to receive funds from the federal government as well as other sources and distribute the funds to stations. CPB certifies that stations are qualified to receive funds and audits the use of those funds. More than 70 percent of the money received by CPB goes directly to stations as Community Service Grants (CSGs) and National Program Production and Acquisition Grants. In addition, CPB funds some programming directly through its Television and Radio Program Funds, supports the national satellite interconnection system and conducts system planning and research. However, CPB does not own any stations nor does it produce any programs.

Policy Implications

From a policy perspective the organization and structure of public broadcasting reinforce the theme that it is diverse and decentralized. For some analysts diversity and decentralization breed inefficiency. These individuals argue that a more centralized system would be more efficient. This is probably correct. However, it is important to weigh these arguments against existing tradition and policies that support decentralized local control over public broadcasting as well as a long-standing fear that a centralized system might lead to greater control over content by the federal government or even to a national government channel.

Public broadcasting in the United States is a very large and structurally complex system. Problems associated with size and complexity are inevitable. At the same time, it is a competitive system in which stations and independent groups who seek funding for special projects subsequently must work together. A great deal of communication is often required to unite diverse or competing interests in order to achieve a common goal. The layers of organizations in public broadcasting, at the state, regional, and national levels, while large in number, do promote greater communication. Viewed in this context, the United States public broadcasting structure may be cumbersome but it works. This is not to argue that it cannot work better.

For a federal policy analyst it is important, first, to decide which of these organizational issues are federal policy issues and which belong appropriately within the policy purview of the public broadcasting community. Second, it is also important to assess the problems associated with implementing organizational change in a large system versus the potential benefits in efficiency. Finally, the needs and opinions of those who will be affected by organizational changes, such as local stations, should be brought into policy debates. In addition, debates about the most efficient organizational structure for public broadcasting should not obscure the fundamental importance of the telecommunications infrastructure that is in place. Public broadcasting represents a nationwide system for delivering educational and informational services to citizens.

Table 3 Public Television Content, 1985–86

Category	Percentage of All Broadcast Hours
Children's Programs	18
News, Business, and Public Affairs	16
Formal Instruction	15
Nature, Science, and Health	14
Drama, Feature Films & Comedy	11
History, Travel, and Other Information	10
Personal Skills and Hobbies	7
Music or Dance Performance	5
Other	4

Source: Corporation for Public Broadcasting.

Programming and Audiences

To make the case that public broadcasting does not deserve support from federal tax dollars, some analysts argue that public broadcasting is "highbrow entertainment for the elite" and, further, that it consists largely of programs imported from Britain. It is important to examine this argument and, in doing so, establish what public broadcasting provides, who creates it, who uses it, and with what effects. From a policy perspective the underlying question is: how well does public broadcasting fulfill its mission? Does it bring vital educational, informational and cultural content to all citizens? Does it provide innovative programming and serve as an alternative to commercial broadcasting?

A casual public television viewer can gain an erroneous impression about the overall scope of programs that are carried. Children's programs, public affairs, formal instruction, and general science programming account for approximately two-thirds of all broadcast hours. "Highbrow entertainment" (like *Masterpiece Theatre*) accounts for approximately 10 to 15 percent (see table 3).

Recent data indicate that 11 percent of programs came from a foreign producer and an additional 4 percent from a coproduction between a U.S. and foreign producer. However, 85 percent were created by American producers. Within this category the two principal sources were major public television stations and independent producers (see table 4).

Table 4 Public Television Program Sources, 1985–86

Source	Percentage of All Programming
Major Public Television Producing Station	37
Independent U.S. Production Groups	29
Foreign Producers	11
Instructional TV Producer	6
Local Public TV Station	5
U.S. Public Television/Foreign Co-Production	4
U.S. Public Television/American Independent Co-Production	3
Other	5

Source: Corporation for Public Broadcasting.

The broadcast signal from public television stations reaches 93 percent of U.S. households. Viewership is low when compared to the commercial networks: the prime-time audience for a network affiliate is approximately five times the audience for a local public television station. However, public broadcasters have always argued that this is a false comparison. They are not trying to compete for the largest audience share at any given moment but to reach appropriate audience segments for specific programs. Their goal is to serve the broad public over the course of a few days or a week, as the moderate audiences for each specific program add up to a mass audience. From this perspective they achieve their goal: in a typical week 100 million Americans watch public television.[9] The average household watches for approximately two-and-a-half hours per week. Moreover, audiences seem to value the programs they watch. Studies on the attitudes of television viewers have consistently shown that people who watch public television like it very much and rate it much higher than the content on commercial stations.[10]

The demographic composition of public television audiences is much like that of the U.S. population as a whole. In this sense public television fulfills its mission value of bringing services to all groups of citizens. Comparisons of selected demographic characteristics of

Table 5 Demographic Composition of U.S. Population and Public Television Audience, 1988

Characteristic	Percentage of U.S. Population 18 Years or Older	Percentage of Public Television Audience 18 Years or Older*
Sex		
Male	47	50
Female	53	50
Age		
18–29	28	26
30–44	30	31
45–59	20	20
60+	22	23
Income		
Under $15,000	22	19
$15000–24,999	18	18
$25,000–34,999	17	18
$35,000+	29	32
Race		
White	85	88
Black	11	10
Hispanic	6	4
Education		
Not H.S. Graduate	21	15
H.S. Graduate	35	38
Some College	22	22
College	22	25

Source: Roper Report Number 88-4, April 1988; and CPB.
*Percentage of persons who indicated that they had watched public television in the previous seven days.

the U.S. population with public television's audience show that they are quite similar (see table 5).

In examining the content of public radio it is important to note the difference between radio and television programming in the United States. Television stations generally offer a broad variety of content. Audiences choose among the programs offered at a given time by different stations. They watch television programs, not television stations. Radio stations, however, generally adopt a consistent format,

Table 6 Public Radio Content, 1987

Category	Percentage of All Broadcast Hours
Classical Music	36
News/Public Affairs/Information	21
Jazz	16
Other/Unknown	27

Source: Corporation for Public Broadcasting.

and audiences tend to listen to one or two radio stations which provide a format they like. In this sense people listen to radio stations, not radio programs. For this reason radio stations tend to attract specific demographic groups.

Public radio is unusual in that it offers a variety of content; nonetheless, most public radio stations do have a format and do attract some demographic groups more than others. A typical public radio format consists of news, public affairs and classical music. Jazz is part of the format for many stations. In addition, a broad variety of content (e.g., blues, popular music, gospel music and comedy) receives moderate air time (see table 6).

The source for most content on public radio is local; that is, the individual station chooses which music it will play, produces local news, and creates public affairs talk programs. In addition, 20 to 25 percent is supplied by National Public Radio and 4 to 5 percent by American Public Radio. There is relatively little content from foreign distributors (approximately 2 percent).

The broadcast signal from public radio stations reaches 82 percent of U.S. households. Signal coverage is smaller than for public television, which reaches 93 percent of households. In a typical week ten million people listen to public radio.[11] Among this group the average person listens for a little more than seven hours per week.[12]

The audience composition for public radio is more concentrated than for public television. It is a group that likes the format adopted by public radio stations. In comparison to the general population public radio's audience is more male, higher income, and higher in education level. In addition, fewer blacks, fewer hispanics, and fewer senior citizens listen to public radio in comparison to the general population (see table 7). Based upon these data, it may be argued that

Table 7 Demographic Composition of U.S. Population and Public Radio Audience, 1988

Characteristic	Percentage of U.S. Population 18 Years or Older	Percentage of Public Radio Audience 18 Years or Older*
Sex		
Male	47	58
Female	53	42
Age		
18–29	28	28
30–44	30	40
45–59	20	19
60+	22	13
Income		
Under $15,000	22	13
$15000–24,999	18	17
$25,000–34,999	17	19
$35,000+	29	41
Race		
White	85	90
Black	11	8
Hispanic	6	1
Education		
Not H.S. Graduate	21	8
H.S. Graduate	35	19
Some College	22	17
College	22	56

Source: Roper Report Number 88-4, April 1988; and CPB.

*Percentage of persons who indicated that they had listened to public radio in the previous seven days.

public radio does not serve all segments of the U.S. population equally. Unfortunately, it is difficult to modify a radio station format and thereby bring in new listeners with selected demographic characteristics. The solution to reaching underserved audiences will likely require an additional station in selected markets, with formats that appeal to audience segments that are now underrepresented in public radio's audience.

Of particular importance to public broadcasting are instructional and children's programs. Usage levels for educational broadcast materials, both inside and outside the classroom, have grown sharply in the past decade. This trend includes K-12 education, college-level instruction and continuing adult education, as well as preschool children's programming. For example, in less than a decade since its inception, Annenberg/CPB telecourses have been adopted by more than 1,000 colleges and universities. Enrollment in the PBS Adult Learning Service courses tripled between 1981 and 1986. More than 80 percent of colleges and universities now use instructional television materials for on-campus teaching. At the K-12 level more than eighteen million students make regular use of educational programming provided by their local public television station. In one year the science series, "Nova" was used by more than 90,000 high school science teachers to provide instruction for more than ten million students. At the preschool level "Sesame Street" has a regular audience of more than nine million children under age six.[13]

If educational broadcasting passes the usage test, it must also pass the test for effectiveness. During the 1950s and 1960s there was some skepticism about the effectiveness of educational television. Research studies over the past two decades have clearly established the effectiveness of television as a teaching tool.[14] Nonetheless, there are many important qualifications to this finding. For example, a child will learn more from "Sesame Street" if an adult accompanies the child in watching the program and discusses it with him or her. Similarly, educational broadcasting works best as a complement to classroom instruction rather than to replace it, and some educational television materials are more effective than others. This latter point is crucial because it is associated with an economic component in educational television: high quality educational television is expensive. The acclaimed Annenberg/CPB telecourse "The Brain" cost several million dollars to produce; "Sesame Street," "3-2-1" Contact and other productions of The Children's Television Workshop (CTW) are also expensive to produce. The cost is associated with high production values and, particularly in the case of CTW, extensive research associated with some productions. Such costs can be justified if the materials are highly effective, widely adopted, and can be used for many years.

Finally, it should be noted that public broadcasting has been a fertile ground for technological innovations in education. Innovation is a specific component within public broadcasting's mandate. Among the many examples are the development and extensive use of a closed-captioning system to extend educational television services to the hearing impaired; creation of a major production center for interactive videodiscs at Nebraska ETC; development of an on-line (computer to computer communication over telephone lines) information service for teachers at WNET in New York; the use of multiple distribution channels (cable, microwave and videocassettes) by South Carolina ETV to bring educational services to classrooms statewide; and, implementation of an overnight video "downloading" service to classroom videocassette recorders (instructional television programs are broadcast during the night and recorded automatically on preset classroom VCRs) at WNED in Buffalo. In addition, educational broadcasters in thirty-three states recently formed the Satellite Educational Resources Consortium (SERC) to provide satellite-delivered instructional television. These and other projects demonstrate an expertise within public broadcasting to use new communication technologies for education.

Policy Implications

Public broadcasting is not just "highbrow entertainment for the elite." With some qualifications concerning characteristics of public radio audiences, public broadcasting serves all segments of the American population with a broad range of educational, informational, and cultural programming. In these ways and through the innovative use of telecommunication technologies, public broadcasting fulfills its federal mandate.

From the perspective of public broadcasters and program producers, however, all is not well. There is a critical shortage of high-quality original programs entering the public broadcast system each year. Also, the quality of many programs is not up to the high standards of the best programs. As a result, many content needs in education, the arts, documentaries, and public affairs are unmet. Also, many underserved audiences do not receive programming that addresses their needs and interests. In this sense public broadcasting as a telecommunications infrastructure is underutilized. It has a much greater capacity for serving the needs of citizens.

Table 8 Sources of Public Broadcasting Income, 1987 (Total Estimated Income = $1.29 Billion)

Source	Percentage of All Income
Federal Government	18.8
State and Local Government, Colleges and Universities	32.8
Member Donations and Auctions	23.0
Business and Industry	15.1
Foundations	3.7
Other	6.6

Source: Corporation for Public Broadcasting.

Funding

In 1987 the estimated total income for public broadcasting from all sources was 1.29 billion dollars.[15] Federal sources provided 18.8 percent of all income, while nonfederal sources provided 81.2 percent of income (see tables 8 and 9). Total income from federal sources has increased moderately during the last decade. However, income from federal sources has declined, as a percentage of all income, while income from members and businesses has increased.

The largest share of federal money (approximately 85 percent) goes directly to the Corporation for Public Broadcasting for redistribution to stations, program funding, and support for the national interconnection system. Other sources of federal money include the National Telecommunications and Information Administration (NTIA) to provide money for equipment and facilities at stations, the U.S. Department of Education, National Science Foundation, National Endowment for the Arts, and National Endowment for the Humanities. In 1987 these other sources provided 27.2 million dollars. However, most of this money (17.5 million dollars) was for facilities and equipment. Total funding for television and radio programs from all federal agencies was less than ten million dollars.

Federal appropriations for public broadcasting in 1989 and 1990 have increased moderately. The 1990 appropriation for the Corporation for Public Broadcasting is 233 million dollars. Assuming that contracts and grants from federal agencies increase at the same rate, total federal

Table 9 Sources of Public Broadcasting Income, 1975–87

Source	Percentage of All Income 1975	1980	1987
Federal Government	25.3	27.3	18.8
State and Local Government, Colleges and Universities	42.9	40.3	32.8
Member Donations and Auctions	11.6	14.5	23.0
Business and Industry	5.8	10.3	15.1
Foundations	7.8	3.3	3.7
Other	6.6	4.3	6.6

Source: Corporation for Public Broadcasting.

support for public broadcasting in 1990 will be approximately 270 million dollars. It may be helpful to translate this funding level into simple human terms and relate it to public broadcasting's mandate. The Public Broadcasting Act mandates that public broadcasters operate a nationwide system of television and radio stations and provide all citizens with the highest quality education and information programs. To fulfill this mandate the federal government will fund public broadcasting in 1990 at a level of $1.08 per citizen.

Preoccupation with Fund-Raising

In the absence of substantial support from the federal government, public broadcasters at local stations are preoccupied with fund-raising. An enormous amount of time and energy is devoted to seeking funds from local and state governments, businesses, foundations, and citizens. They have been successful in garnering increased support from businesses and donations from individuals. For example, between 1976 and 1986 the number of citizens contributing to public radio and television stations tripled and underwriting by businesses also increased sharply. It is not clear whether these sources will continue to increase their levels of support for public broadcasting. Moreover, there appears to be no solution on the horizon to public broadcasting's long-term funding needs.

The constant struggle for funds has been a contributing factor to

Table 10 Change in Audience Share, 1983–87

Program Source	Percentage Audience Share	
	1983	1987
Network Affiliates	70	62
Independent Stations	19	19
Basic Cable	7	14
Pay Cable	5	6
Public Television	3	4

Source: A.C. Nielsen and CPB.

some tensions in the public broadcasting system. For example, funding for program production is clearly inadequate. Many of those who apply for but do not receive production funds feel that funding priorities are wrong or that the structure for awarding funds is flawed. A great deal of debate within the public broadcasting community has centered on these issues. Some arguments for shifting priorities or structural changes may have merit. However, the fundamental problem will remain: funding levels are woefully inadequate.

Near Term Issues

In 1972 fewer than 10 percent of U.S. households had cable television.[16] By 1988 more than 50 percent of U.S. households had cable television. The dramatic growth in penetration of cable has been accompanied by an extraordinary proliferation in the number of channels available to citizens. Some very large cable systems offer more than 100 channels to subscribers. As more channels have been made available, the audience share of commercial network affiliates has eroded and the audience share for public television increased slightly. Viewing of basic cable channels increased sharply (see table 10).

Underneath these general statistics there is a complex set of trends at work. There are many types of media households, each with different viewing patterns. For example, there are households with no cable television, basic cable, and basic cable plus one or more pay channels such as Home Box Office. In addition, many households have videocassette recorders which they use to tape programs for later viewing. Public television enjoys its largest audience share in households

Table 11 Taping Patterns in Households, 1988

Principal Source Taped	Percentage of Households
Network Affiliate	68
Independent Station	14
Pay Cable	9
Basic Cable	5
Public Television	4

Source: A.C. Nielsen, reported in *USA Today*, August 5, 1988, p. D1.

with no cable. Of those households with cable, basic cable households watch more public television than pay cable households,[17] and public television is taped in roughly the same proportion as its overall audience share (see table 11). Taken together, these data suggest that public television is holding steady as new technologies enter U.S. households. However, there is much uncertainty for the future. As cable television enters more U.S. households, public television may lose a share of its current audience.

Cable Television: Must-Carry and Channel Position

In July 1985 the U.S. Court of Appeals struck down the FCC "must-carry" rule that required cable operators to carry all over-the-air broadcast signals of full-power UHF and VHF stations received within the cable operator's franchise area.[18] The FCC subsequently released a new set of "interim" must-carry rules, but these too were struck down. In 1988 the Supreme Court rejected a petition to review the lower court decision.[19] This has placed must-carry before Congress, which is studying the issue.

Public television and commercial broadcasters argue strenuously that they are at the mercy of the local cable operator who can drop them at any time and indeed that many have been dropped.[20] Cable operators have argued that very few stations have been dropped.[21] Further, they argue that the only signals dropped were duplicative stations and that it is a waste of channel space to carry two or three network affiliates, each of which provide the same programs at the same time. Public television has tried to distinguish itself from commercial network affiliates by pointing out that there is variation among public stations in both the programming carried as well as the scheduling of programs.

Channel position on a cable converter is a related issue. Clearly, a commercial or public station that is assigned channel 7 in a market would like to be placed in the channel 7 slot of the local cable system. However, a cable operator may wish to place a premium cable channel in this "prime" location on the cable system and move the channel 7 broadcast station to a different, less desirable, cable channel. Currently, cable operators are free to place stations wherever they wish. Many public television operators have complained that they have been moved to unfavorable slots on the cable system.

A number of compromises have been suggested for both of these issues. For example, must-carry requirements could be based upon the size of the cable system: a small cable system (twelve channels or fewer) might have no must-carry requirements, a midsize system (thirteen to thirty-five channels) might be required to carry no more than two affiliates of each network or public television stations, and very large systems might be required to carry all broadcast signals received in the cable franchise area. However, from the cable operator's perspective an important policy issue is involved—freedom to control what is placed on their cable system and where it is placed. On the other side of the policy coin is the issue of content and conduit —should a group that controls the principal conduit or pipeline for programming into an area be allowed to have complete control over the content that is sent through the pipeline? Must-carry and channel placement are likely to be decided within the context of these larger issues.

Program Competition

As specialized cable channels have proliferated, public television has begun to experience competition for programs that were once their exclusive domain. Cable channels such as The Discovery Channel, Arts and Entertainment, and The Disney Channel, as well as independent UHF stations compete for some of the programs that public television would like to carry. This is more relevant in some content categories than others. For example, competition is strong in nature programming, drama and music performance. From a federal policy perspective two issues are involved. On the one hand, it is irrelevant whether public television succeeds in obtaining these programs since very little federal tax money is involved. These programs are paid for predominantly by station members, business underwriters, and foundations. On the other hand, many of these programs are popular and help to attract citizens to public television. Were there a severe erosion in these program categories, the community base of support for public television stations might be jeopardized.

National Productions

In the past few years there have been relatively few major national productions created by public television or independent American producers for the American public. The fundamental problem is lack of funds. A secondary issue that has received much discussion is the structure for creating national productions. In the 1950s and 1960s National Educational Television was a national production center. The Carnegie Commission recommended that two national production centers be created, but this was not implemented in the Public Broadcasting Act. For the past two decades most national productions have been undertaken by one of the large public television stations, a consortium of stations, an independent producer, or a coventure between a station and an independent producer. There is much discussion about possible changes in this system, including giving greater control over national productions to PBS. Some believe that greater central control over national productions would be more efficient. Others argue for greater decentralization, fearing that national production control might usurp the power of local stations. Still others argue that the problem is not in the control over productions but in the funding available for productions.

Overlapping the debate about national productions has been much discussion about allocating funds for specific categories of programs and program producers. Independent producers want greater funding for their work and many have argued that there is insufficient programming to serve the needs of minority audiences. The arguments about control over production funds are often quite heated.[22]

The Corporation for Public Broadcasting

CPB has been a focal point for periodic controversies and heated debates since its inception in 1968. During the early 1970s CPB provided the turf for a battle between the White House and public broadcasters.[23] During the 1980s CPB became the focus for a strident debate about the objectivity of public television programs and whether objectivity could be measured. Throughout its history CPB has been criticized for the way it allocates funds. As a result, there have been periodic calls for eliminating CPB or restructuring the organization. Much criticism of CPB is the inevitable result of its role as the dispenser of federal money. For every ten groups that seek funds for a special project, at least nine do not receive funds. Some of the losers inevitably feel that they were treated unfairly. In addition, there has always been a tension between the power of local stations and that of national organizations. This may be a healthy tension. While public broadcasting has been rooted in the local stations, there is a need for national organizations to manage the interconnection of the system, conduct planning and research, speak for the stations and serve as an interface to the federal government. CPB serves as the interface. Were it to be eliminated, it would have to be reinvented in some form. Indeed, the second Carnegie Commission called for the elimination of CPB and then proposed a new structure which had the essential features of CPB.[24] Others have called for changes in CPB's administration of funds and the return of more power to local stations in selecting the programs that would receive production funding.

CPB, or an organization like it, is essential. It is important that such an organization function smoothly and efficiently. Toward this end one persistent problem associated with CPB has been the poor quality of some CPB board members, who are appointed by the president and confirmed by the Senate. The board is supposed to act as a heat shield for public broadcasting against unwarranted interference by the federal government in broadcast content and it is also intended to set policy for CPB. Under both Democratic and Republican administrations a number of CPB board appointments have been weak. Rather than serve as a shield for public broadcasting, some board members have added heat.

One alternative to the current system of appointments would be to have a board that consists of designated representatives from major agencies—chief executive officers from the National Science Foundation, Library of Congress, National Gallery of Art, and so forth, or a combination of designated representatives and presidential appointees. It may be unrealistic to believe that a new administration would surrender these appointments in the future. However, it is essential to stress that public broadcasting deserves the strongest CPB board that the administration can muster.

New Technologies

Public broadcasting faces two significant technology issues in the near term. First, the PBS satellite interconnection system is reaching the end of its useful life. A new system must be put in place by 1991–92. PBS has been studying alternatives for some time and plans for the new system are well underway. Proposed authorizations for public broadcasting in 1991–93 include funds for the new system. In this sense the transition to a new satellite system appears to be proceeding smoothly.

Second, important changes are taking place in the distribution and utilization of programming, both in households and schools. Households can access video programs through over-the-air broadcast, cable, or VCR. Schools can access programs through these distribution channels as well as ITFS (a microwave transmission) and direct satellite broadcast. This new environment of multiple distribution paths provides greater capacity and flexibility in providing services. However, this environment is evolving rapidly, and it is important that public broadcasting continue to research, test, and adopt the most appropriate technologies to support its mission.

Long-Term and Fundamental Issues

At the turn of the century, as public broadcasting begins to plan its third interconnection system linking stations throughout the nation, the choice may be broadband integrated services digital network (B-ISDN) rather than satellite. Most households receiving a signal from their local public television stations will receive it over a cable (coaxial or fiber optic), not by over-the-air broadcast. Some programs may be interactive and many will undoubtedly be viewed not according to a broadcast schedule but "on-demand" via a videodisc or videocassette. It is also likely that a new high-definition television standard will be functioning throughout the United States.

The precise mix of program delivery systems that will evolve is unclear, but strong winds of technological change are swirling about us. Accompanying these technology changes, viewers and listeners may experience a different mix of program suppliers. No one knows how the competition between cable and broadcast networks will unfold or what role telephone companies may have in providing television programs to households.

In an environment of certain change but uncertain outcomes, it is important for public broadcasting to monitor technology developments closely, conduct research and plan alternative courses of action. Regardless of the delivery systems or commercial suppliers of programs a decade from now, there will be an important role for public broadcasting. However, as the second Carnegie Commission noted,[25] "public broadcasting" is likely to become "public telecommunications." Public broadcasters will use a variety of electronic communication systems to deliver services to citizens. This shift has already occurred throughout much of the system, although the shift is subtle. While over-the-air broadcast is still the dominant mode of delivery throughout the public broadcasting system, the mix of telecommunication delivery systems will become more apparent over the next decade. New federal policies will have to recognize and accommodate such changes.

Future Need for Public Broadcasting

The principal need for public broadcasting in the decade ahead is the same as the need addressed in the Public Broadcasting Act of 1967: to bring education services, broadly defined, to all citizens. The intensity and scope of the need, however, is greater than it was in 1967. This relates to trends in education as well as trends in the economy. First, more adults over age twenty-four are pursuing higher education degrees. In 1970 28 percent of all students pursuing a higher education degree were twenty-four years old or older; the U.S. Department of Education projects that 49 percent of all students pursuing a higher education degree in 1992 will be twenty-four years old or older.[26] Many of these older students are working full or part time. Broadcast or videocassette telecourses meet a need for convenient access to courses. Telecourses cannot replace traditional campus instruction, but they can serve as one component in a mix of on-campus and off-campus courses offered by a college to students, particularly older students.

Second, as the number of working, single-parent households and two-income households grow,[27] there will be an associated need for more preschool education. This need parallels the general problem of day-care for the children of working parents. Excellent telecommunications materials can complement preschool instruction in day-care centers.

Third, there is a large demand for in-service professional training and continuing adult education.[28] Educational telecommunications materials are an important component in meeting these needs. More generally, there is a broadly recognized need to improve the quality of American education. It would be folly to believe that public broadcasting can serve as a magic bullet to transform the quality of American education, but it is a powerful tool that can be put to work inside and outside the classroom.

All of these needs have economic as well as social components. In helping to meet the need public broadcasting can enhance the capabilities of the American work force as well as of individuals. Equally compelling, the United States is steadily moving into an information age and an information economy. More of our products and services are based upon information and high technology. To support this economy we require a highly educated work force. In 1940 approximately 5 percent of the U.S. work force had a college degree; by 1967 the percentage had doubled to approximately 10 percent and by 1987 it had doubled again.[29] A strong U.S. economy in the next decade may require a work force in which half of all workers hold a college degree. The development of such a work force will require a very large education effort. The public broadcasting system can be an important part of this effort. Public broadcasting can bring expertise in creating education materials, a nationwide delivery system and strong existing relations with local schools and colleges.

In addition to education there will continue to be needs for cultural and public affairs programs that are not "commercially viable," for programs that serve minority audiences, and for innovation in programming. All of these areas falls within the mandate of the Public Broadcasting Act. Finally, public broadcasting's mandate includes providing access to information for all citizens. This role is likely to grow in the future as more and more commercial programming becomes available only through cable television. Those who cannot afford cable television or who live in areas that will never be served by cable because it is not profitable will rely more heavily on public television to provide them with information that is readily available to citizens with cable television.

Long-Term Funding

There have been many proposals for solving the long-term funding needs of public broadcasting. The Wagner-Hatfield Amendment to the Communication Act of 1934 would have allowed public broadcasters to sell air time to commercial groups, but the amendment was defeated. The Carnegie Commission in the mid-1960s proposed an excise tax on the sale of new television sets, but Congress failed to adopt this recommendation in the Public Broadcasting Act of 1967. The Ford Foundation and others[30] have suggested that public broadcasting be financed in part from a royalty on domestic communication satellite revenue. In this volume Henry Geller argues for a spectrum use fee. The second Carnegie Commission in the late 1970s made a similar recommendation.

Public broadcasting examined the issue of alternative financing in a formal way during the early 1980s. In 1981 Congress reduced the funding for public broadcasting and authorized the Temporary Commission on Alternative Financing to look for realistic alternatives. The commission examined many options, including commercials on public broadcasting, but concluded that there was no alternative to federal financing. The option of becoming more commercial was pursued by National Public Radio in 1982, but this contributed to a financial crisis for NPR rather than solve its funding needs. Since then, public radio and television have adopted policies of "enhanced underwriting,"—underwriting announcements at the beginning or end of programs which provide qualitative descriptions about the underwriter. During this period revenue from underwriting has increased, but it has not solved the long-term funding problem.

Some of the proposals described above could, if adopted, yield significant revenue. The Geller proposal, for example, would treat broadcast spectrum as public property to be leased to commercial

Table 12 Projected Revenue from Spectrum Usage Fees (based upon 1987 gross advertising revenue, in millions of dollars)

Source	1 Percent	2 Percent	3 Percent	4 Percent	5 Percent
Radio	74	148	222	296	370
Television	233	466	699	932	1,165

Source: Greystone Communications.

broadcasters. Licensees would pay a fee, based upon a percentage of gross revenue for use of the spectrum. In return they would be freed from "public trustee" obligations and could pursue commercial interests unencumbered by public interest obligations. Significant revenue would be generated if spectrum leasing charges were based upon gross advertising revenue for radio and television (see table 12). It may be difficult, however, to extract revenue from commercial broadcasters who currently are not paying a spectrum use fee and who do not appear too harshly encumbered by their current "public trustee" obligations.

Unless a major, alternative source of revenue is forthcoming, public broadcasting will continue to require substantial support from the federal government. The question then arises, what level of funding is required?

Conclusions

One way to assess federal funding levels for public broadcasting is by a comparison with national funding for public broadcasting in other countries. Earlier, it was noted that estimated federal funding for U.S. public broadcasting in 1990 represents $1.08 per citizen. This funding level is an increase from $1.00 per citizen in 1987. Per capita contributions to public broadcasting through direct appropriation and/or receiver license fees by national governments in Britain, Canada and Japan were far higher than in the United States (see table 13).

Why is U.S. federal funding for public broadcasting lower than in these other countries? The answer relates, in part, to historical factors such as the baseline funding level set by the Public Broadcasting Act of 1967. The Public Broadcasting Act of 1967 was intended to establish a start-up level of federal funding, not a funding baseline

Table 13 National Government Contributions to Public Broadcasting in Selected Countries, 1987

Country	Amount per Citizen (in U.S. dollars)
United States	$1.00
Canada	$22.37
Japan	$14.65
United Kingdom	$27.04

Source: Corporation for Public Broadcasting.

for long-term operations. However, it became a de facto baseline from which year-to-year funding modifications were made.

In addition, U.S. funding for public broadcasting relates to the perceptions of federal policymakers about public broadcasting. Some policymakers perceive public broadcasting to be an arts channel for the elite and therefore not worthy of any federal support. The data presented in this paper do not support such a conclusion, but the perception exists nonetheless. Other policymakers see public broadcasting as a valuable source for education, information, and performing arts programs but not as an essential resource. They support federal funding for public broadcasting more or less at its current level. A third perspective, supported in this paper, views public broadcasting as a vital component in the telecommunication infrastructure for the nation: a system with hundreds of television and radio stations throughout the United States, linked by satellite, and supplemented by a broad range of alternative delivery systems. It produces and delivers essential education services along with information and cultural content that enrich the nation. At the same time, public broadcasting is struggling financially and has far more potential for meeting the needs of citizens than has been realized to date. From this perspective current federal funding levels are inadequate, particularly for content that can be distributed by public broadcasting's nationwide telecommunications infrastructure.

To meet the needs outlined here, particularly those in education, a more appropriate federal funding level would be $10 for each citizen. Such a funding level presupposes a strong federal policy in support of education and a commitment to educational telecommunications as an important component in such a policy. Half of this proposed appropriation, $5 per citizen, might be set aside in a special fund for educational telecommunication services. Public broadcasters and other appropriate groups—universities, school systems, and independent production groups—would apply for grants from this fund. It would support the creation of high-quality education materials, delivered through a variety of telecommunication channels, to address needs in preschool education, K-12 instruction, higher education, and continuing adult education. It would also support the creation of training materials to help revitalize the American work force and prepare U.S. workers to compete in a high-technology, information economy.

The other $5 per citizen could support public broadcasting directly. This would renew aging facilities at public broadcasting stations, fund a new satellite interconnection system, provide a broad range of major national productions as well as enhanced local programming, support planning and research activities, and expand the development of new telecommunication services. It would revitalize the public broadcasting system and recognize through federal policy that in the emerging information age, a strong public telecommunications infrastructure is essential.

Unfortunately, the most likely federal action for public broadcasting in the near term is no action at all. In another assessment of public broadcasting, John Witherspoon and Roselle Kovitz argue that public broadcasting may need another Sputnik, a dramatic and bold action by a major competitor-nation which shakes the federal government into action.[31] Sputnik led to the National Defense Education Act of 1958 which funded media-based instruction in science, foreign languages and mathematics.

Barring a Sputnik, public broadcasting needs political "champions,"—leaders in the legislative and executive branches who will fight for educational broadcasting. In the past public broadcasting has had several champions, including Senators John Pastore, Warren Magnuson, and Barry Goldwater. John Pastore thundered that public broadcasting was a "national treasure" and fought long in its cause. Tough champions are needed again.

Cable Television: Promoting a Competitive Industry Structure

Harry M. Shooshan III

Cable television began as "community antenna television" or CATV. As the name implies, early cable systems developed in response to demands for improved television service in areas where factors of terrain or distance from transmitter sites prevented adequate off-air reception. Today, half of the television households in the United States receive their television by way of cable systems. The percentage of households with cable will approach 55 percent by 1990.

One of the earliest CATV systems was constructed by the part-owner of a local appliance store who was interested in stimulating sales of television sets. The system consisted of a large antenna on a nearby mountaintop with cable strung from tree to tree. It provided three television signals to 727 subscribers in a small Pennsylvania town. Today most cable television service is provided by large multiple systems operators (MSOs). Systems involve complex electronics and, in the not too distant future, will undoubtedly employ fiber optic technology. Cable systems deliver dozens of program services with signals fed by satellite and microwave, including an increasing number which are available exclusively over cable. Systems in large cities such as San Diego and San Antonio have several hundred thousand subscribers.

The rapid growth of cable-delivered television service has caused at least one federal policymaker to suggest recently that cable might supplant over-the-air broadcasting and thereby free up valuable spectrum for other important uses.[1] One does not have to share this radical view of television's future to see that cable has evolved from its modest beginnings to become a very important industry.

Each decade of cable's forty-year life has been dominated by an overriding policy issue. During the 1950s CATV was seen as a means to stimulate the growth of television. Despite some early concern about the negative impact of cable on over-the-air broadcasting, the Federal Communications Commission determined that CATV did not pose an economic threat.

In the 1960s the perception of cable changed. The FCC determined that cable growth might harm local broadcast stations and imposed a series of regulations designed to protect over-the-air television. For example, in 1965 the commission imposed a "freeze" on the number of distant television signals which cable could bring into a local market. The freeze was followed by complex rules governing signal carriage and program exclusivity which served primarily to protect the interests of broadcasters and program suppliers. These rules were based on an agreement among the cable industry, broadcasters, and program suppliers which was brokered by the White House and consented to by the Congress.

By the mid-1970s the FCC, under pressure from Congress and the courts, began to loosen regulation substantially. By the end of the decade the commission had eliminated its restrictions on distant signals and on pay cable programming. Cable was considered a promising medium to enhance and expand viewing choices, especially through programming aimed at more narrowly defined audiences. Federal deregulation was facilitated by legislation enacted in 1976 which resolved the cable industry's long-standing copyright problems.[2]

In the 1980s the policy debate has centered on economic regulation. Faced with declining growth in pay cable revenues, the cable industry decided to push for deregulation of the rates for basic service. Cities foresaw the political problems which would result from constant pressure from cable operators for rate increases. The two sides reached a compromise which became the basis for the Cable Communications Policy Act of 1984 ("1984 Cable Act"). This law provided for the elimination of rate regulation for most of the cable industry and reduced federal and local regulatory power. Thus, cable television became the one major sector of the telecommunications industry in which Congress has removed substantial regulatory authority from federal, state, and local regulators.

In addition regulatory authority has been curtailed, or at least called into question, by a series of court decisions which have afforded First Amendment protection to cable operators.[3] In essence these decisions recognize a cable operator's right to freedom of speech and suggest that government regulation must be narrowly drawn where that right is affected.[4] While this area of law will remain unsettled in the absence of a definitive Supreme Court decision, lower courts have cast substantial doubt on the regulatory authority which is contemplated by the 1984 Cable Act.

As might be expected, cable deregulation has produced a backlash. There is growing concern about the rate increases which have taken place since deregulation took effect in January 1986. One survey showed that, in the period from January to July 1987 alone, cable rates increased by 24 percent.[5] The cable industry has argued that the average rate increase since deregulation has been far less. The industry has also argued that increases are justified because rates were held artificially low by regulation and because, in many cases, the companies are offering additional services.[6] Concern over the extent of the rate increases and the accuracy of the various studies or surveys has prompted the House Telecommunications and Finance Subcommittee to request an investigation by the General Accounting Office.

In addition to consumer concerns cities and other franchising authorities are concerned that their power to control cable practices is being eroded by court decisions stemming from challenges by cable operators. Cities are especially troubled about challenges to their authority under the 1984 Cable Act to issue franchises and about the prospects of being held liable for damages by cable operators who are denied franchises.

Broadcasters are concerned about elimination of the FCC's "must-carry" rules under which cable operators were required to carry local broadcast stations and about cable's favorable treatment under copyright laws. Under the must-carry rules broadcasters were assured of free carriage and of carriage on the same channel on which they broadcast over the air. In the absence of these rules broadcasters are concerned that cable operators may ultimately charge them for carriage, reposition their signals, and perhaps drop them altogether.

Copyright laws give cable companies additional bargaining power in dealing with local broadcasters. The compulsory license gives a cable operator the right to carry local broadcast signals without the consent of the broadcaster. The FCC's recent decision to reimpose rules protecting exclusive program arrangements entered into by broadcasters and program distributors (so-called "syndicated exclusivity" rules) should help to rectify this power imbalance.[7]

The backlash from cable deregulation which has resulted from concern about cable's market power and resulting harms for subscribers, suppliers, and potential competitors will undoubtedly spill over into the 1990s. One way to deal with the problem of cable's market power is to reimpose economic regulation. Economic regulation, however, has proved to have many infirmities. Moreover, attempts to reimpose regulation may well be limited as constitutional doctrine for cable evolves in the courts.

A better solution is to encourage competition. Public policymakers should do everything they can to remove barriers that prevent other firms from competing with the cable industry. They cannot eliminate barriers entirely because of cable's economies of scale. However, barriers that can be eliminated should be eliminated. In addition, policymakers should employ structural regulation to deal with cable's market power.[8]

Therefore, in looking ahead to the 1990s it appears that the major public policy issues surrounding cable television will relate to industry structure and competition. They include:

–Concentration of control
–Vertical integration into program services, networks, and distribution systems
–Cross-ownership with other media
–Role of telephone companies in offering broadband entertainment services
–Control of conduit and content
–Direct competition from other multichannel services (competing cable operators, Satellite Master Antenna Television [SMATV], Multichannel Multipoint Distribution Service [MMDS] and Direct Broadcasting Service [DBS]) and barriers to entry.

Proper resolution of these issues is vital to the continuing development of a broadband-based television system in the United States, especially as more and more viewers come to rely on cable television for information and entertainment. In some cases problems like concentration of control and denial of programming to competitive distributors have arisen or become more severe since the passage of the 1984 Cable Act. In other instances Congress chose to avoid confronting the issues or, in the case of bars on entry by broadcasters and telephone companies, may have simply made the wrong decision.[9] Moreover, problems related to cable's market power have been handled on an ad hoc basis, if at all, by the FCC and other federal agencies.[10]

The issues of industry structure and competition are ripe for consideration as the cable industry matures. This essay identifies these problems, their implications for the viewing public, and some policies for dealing with these problems. The analysis is based on the premise that the public is best served by a cable television infrastructure which supports the widest availability of services, the maximum number of viewers, the maximum number of program choices, and the greatest diversity of viewpoints. This essay also touches briefly on a number of other specific policy issues surrounding cable, including must-carry, the compulsory license/copyright and the federal/state issues surrounding cable operators' participation in voice and data markets, and discusses briefly debates concerning cable television's First Amendment status.[11]

The Cable Industry Today

There are 8,000 operating cable systems in the United States today, with a number of additional systems franchised but not constructed.[12] There are approximately forty-five million cable subscribers in the country, and cable systems pass roughly seventy-five million homes or 85 percent of total television households. Texas has the largest number of cable systems (552), while California has the most subscribers (4.2 million). Palm Springs, California, has the highest cable penetration of any city with 93 percent of all television homes subscribing to cable.

The largest cable system (Cox Cable in San Diego) has 279,000 subscribers, while some systems have fewer than 100. Tele-Communications Incorporated (TCI) is the largest multiple system operator with 11.4 million subscribers, more than twice the number of subscribers of the second largest MSO (American Television & Communications with 4.5 million subscribers). While there are 100 MSOs with at least 28,000 subscribers, the five largest MSOs together account for nearly 50 percent of all cable subscribers up from 33 percent just four years ago.

About 80 percent of cable subscribers subscribe to one or more pay

Table 1 History of Cable TV Growth

Year	Number of Systems	Total Subscribers	Penetration (percentage)
1952	70	14,000	—
1955	400	150,000	0.5
1960	640	650,000	1.4
1965	1,325	1.2 million	2.3
1970	2,500	4.5 million	7.5
1975	3,366	9.1 million	13.2
1980	4,225	17.6 million	22.6
1985	6,600	42.2 million	46.2
1988	8,000	45.0 million	51.1

Source: Based on *Cable Television: Promise Versus Regulatory Performance*, tables 1 and 2; *Media Business News*, July 11, 1988, p. 3; NTIA Study, p. 10.

cable services. The largest pay cable services—HBO and Showtime—are owned by Time, Inc., and Viacom, respectively, both of which own large MSOs.

Almost 32 percent of all cable systems have ties with broadcast interests, over 20 percent with program producers and approximately 18 percent with newspapers. The nineteenth largest MSO (Centel Communications) is owned by the third largest independent telephone company (Centel). Many cable MSOs have multiple cross-ownership ties.

The growth of cable has spawned numerous program services, some

Table 2 History of Cable TV Revenues

Year	Total Revenue (millions of dollars)	Basic Cable	Pay Cable Revenue (millions of dollars)	Pay/Basic Ratio
1955	20	15	—	—
1960	50	45	—	—
1965	95	90	—	—
1970	345	337	—	—
1975	804	764	29	.03
1980	2,603	1,649	785	.47
1985	9,305	4,353	3,787	.86
1987	11,407	6,608	4,098	.62

Source: Shooshan & Jackson, Inc.; 1988 Cable TV Investor, Paul Kagan Associates, Carmel, Calif.

Table 3 Largest Cable MSOs (consolidated interests)

Company	Subscribers	Percentage Total Subscribers
Telecommunications Inc.	11,491,765*	25.21
American Television and Communications	4,540,000	10.61
Continental Cablevision	2,332,219	5.22
Comcast Cable Communications	2,089,650*	4.67
Cox Cable Communications	1,438,057	3.22
Warner Cable Communications	1,424,364	3.19
Newhouse Broadcasting	1,074,799	2.40
Viacom Cablevision	1,068,400	2.39
Cablevision Systems	1,035,429	2.32
Jones Intercable	990,041	2.21
Total	27,484,725	61.49
"Next 10"	6,545,644	14.64

Source: MPAA, May 11, 1988.
Note: Figures are very close to those contained in NTIA Study, Attachment 2, p. 6.
*Includes 50 percent of Storer Communications subscribers.

of which are largely duplicative of traditional programming (the "superstations," USA Network, Arts and Entertainment, and CBN) and others which are truly innovative (CNN, C/SPAN, Nickelodeon, and ESPN). Cable television undeniably offers subscribers a varied array of entertainment and information options.[13] (See tables 1, 2 and 3.)

Industry revenues are expected to be $11.4 billion by the end of 1988. This is an increase from just $2.6 billion at the end of 1980.

Dealing with Cable's Market Power

In almost every community the cable television system is a monopoly. Despite the fact that the 1984 Cable Act authorizes franchising authorities to award more than one franchise, there are very few instances of direct competition between cable companies. In this respect cable systems differ substantially from all other video programming distributors. Nearly every community is served by more than one television station, movie theater and videocassette rental store.

The cable market is also not contestable. A contestable market allows "hit-and-run" competition where competitors can rapidly enter the market to exploit short-run opportunities for profit. They can then exit costlessly if the incumbent firm meets the competition.[14] Construction of a cable system requires substantial irreversible investment, making entry and exit very costly.

The monopoly on cable distribution (output market) gives each cable system a monopsony in the market for programming services (input market). The cable operator completely controls cable services carried on its system. It offers programmers the only outlet for cable distribution in a community. Elimination of the must-carry rules extends this monopsony power to local broadcast programming. Even for leased channels mandated by the 1984 Cable Act, the cable operator controls the rates, terms, and conditions of access.[15]

This is not to say that cable systems monopolize the distribution of all video programming. Many other distributors offer programming that competes with cable services. Such competition naturally limits the market power of cable systems. However, to the extent that cable services differ substantially from those distributed by other media, cable systems retain significant market power.

For example, cable television systems rebroadcast the signals of local television stations. While viewers can receive the signals over-the-air instead of over cable, they may have to install an outside antenna to get adequate reception over-the-air. Even with an outside antenna, reception over-the-air may be inferior to cable reception.

Cable systems also distribute programming from superstations and cable networks. Much of this programming, especially sports coverage, is not available except over cable in each local market. Cable programming services can also be differentiated from broadcast programming by the greater variety which results from the cable operator's ability to program multiple channels.[16]

Cable systems distribute pay cable services, which primarily provide recent movies. These services fill a valuable niche between distribution by videocassettes and broadcast television.[17] For frequent movie viewers who want to see recent movies, neither videocassettes nor broadcast television may be an effective substitute for cable. Moreover, as pay cable services add more original programming, videocassettes and broadcast television become harder to substitute.

Seen from the perspective of the program suppliers, the problem is much the same. While movie producers have many alternative ways to reach some consumers, the local cable system has absolute control over the access of producers to an important market segment—the cable subscribers.[18]

In summary, competitors offer many attractive viewing alternatives, but they do not offer the same services that cable does. As a result, these competitors are not providing close enough substitutes for cable services to limit cable's market power effectively.

Measuring Cable's Market Power

The preceding analysis depends on assumptions made about the degree of competition with cable systems provided by various other video program distributors. For the most part the debate over cable's market power has been cast in these terms. Cable interests point to alternative programming and argue about how competitive their markets are. Cable's adversaries argue that cable's services are highly differentiated from competitive alternatives. The problem with this approach is that there is no fixed standard to define how close the competitive substitutes must be in order to provide workable competition. Thus, conclusions tend to be extremely subjective.

Moreover, the appropriate standards for workable competition are changing dramatically with time. The first cable television systems were marginal enterprises, except in remote areas where broadcast reception was poor. In other areas over-the-air broadcasting provided ample competition. Any greater level of competition could have prevented cable from being viable at all.

At present cable is a mature and unquestionably viable industry. Cable television service is established and popular. The dangers now are that cable systems will earn excessive monopoly profits by charging too much to viewers and excessive monopsony profits by squeezing programmers. The latter harms viewers by diminishing the supply of quality programming. With cable now well-entrenched and continuing to grow, competition must be far more intense than it was in the past if these dangers are to be avoided and if satisfactory market performance is to be assured.[19]

A More Objective Standard

There is a much more objective standard which can be used to determine the degree of competitiveness of the cable television market. It involves measuring cable's monopoly/monopsony profits. If the combined total of monopoly/monopsony profits is insignificant, we know that competition, however differentiated, is doing its job. If monopoly/monopsony profits are substantial, however we know that competitive alternatives, however numerous, are inadequate to assure satisfactory market performance.

This more objective standard is obtained by applying the widely used indicator, Tobin's *q* ratio.[20] It provides a method for using data from financial markets to detect monopoly profits. The *q* ratio is especially helpful because there are many problems with using accounting data to detect monopoly profits,[21] and the use of the concentration ratio to measure monopoly power is also questionable.[22]

The *q* ratio can be defined as follows: the numerator is the price for which the company sells in financial markets; the denominator is the replacement cost of the firm's assets. In a purely competitive or contestable equilibrium, the *q* ratio is unity (one-to-one). Higher values of *q* indicate the presence of monopoly/monopsony profits.[23] These results apply during the entire life cycle of the firm, no matter what the pattern of accounting profits is over time or what the profitability might be during a particular period. Tobin's *q* is especially useful to measure monopoly/monopsony profits since it measures long-run monopoly power.[24] A *q* ratio for the cable television industry that is substantially higher than that of the nonfinancial economy would demonstrate that market power in the cable industry is excessive.

The market for cable systems has been unusually active for the past several years. It is therefore relatively easy to measure market prices at which cable systems sell. Since most cable acquisitions have been by private sale, the prices paid for cable companies in these private sales, rather than stock prices, are a much more representative way to determine the market value of cable systems.

One study estimated the average price at the beginning of the first quarter of 1988 at $2,294 per subscriber.[25] This is an appropriate figure to use for the numerator of the *q* ratio, although with recent sales running at between $2,000 and $3,000 per subscriber it may be slightly on the low side.

The denominator of the *q* ratio is the replacement cost of cable systems. This figure is subjective—there are likely to be substantial cost differences among cable systems depending on nature of plant, type of converter, density, and so forth—the FCC estimated replacement cost of $414[26] per subscriber, while slightly low, is adequate for this analysis.[27] Using these estimates of market price ($2,294) and of replacement costs ($414), the *q* ratio is 5.5. Viewed differently, cable systems have been selling for five-and-a-half times replacement costs. The difference between replacement cost and financial market value is capitalized monopoly/monopsony profit.

To put this in perspective it is useful to see how the *q* ratio of the cable industry compares with that of the whole nonfinancial economy. The *q* ratio for all nonfinancial U.666S. corporations was 0.8 as of December 1986—less than the theoretical value of unity. The low *q* ratio indicates that the nonfinancial economy, on average, is not earning monopoly profits and is expected to earn less than a competitive rate of return.

Therefore, the *q* ratio for the cable industry is considerably higher than the ratio for the whole nonfinancial economy. Cable companies are expected to earn huge monopoly/monopsony rents.[28]

Roots of Cable's Market Power

Cable's market power results, in part, from the fact that most communities have issued only one franchise. Despite recent court decisions which have eroded the protection afforded by such franchises and concern over liability for damages if a franchise is denied, communities have not rushed to issue second franchises.

Cable also has large scale economies. That is, much of the cost of a cable system is fixed and does not vary with the number of subscribers. The cost per subscriber, therefore, declines as more subscribers are added. In this cost structure a new entrant faces an uphill struggle to compete with an established cable system. An entrant will start with fewer subscribers than the incumbent, and its cost per subscriber will therefore be much higher. This is one reason why established systems face very little direct competition in their local markets from other cable companies.

Cable also faces little effective competition from other media. While the videocassette market has been growing rapidly, videocassettes compete only with pay services. In the past four to five years subscription television has practically disappeared, Satellite Master Antenna Television (SMATV) has declined, and MMDS and satellite broadcasting have developed slowly. These technologies have not achieved the potential predicted in the early 1980s.[29]

Unless policymakers address industry structure/competition issues relating to cable, there is little reason to believe that the monopoly/monopsony profits of the cable industry will be reduced in the foreseeable future. No matter how many alternatives the cable industry can cite, existing competition is inadequate.

Harms to Consumers

The absence of effective competition in most cable markets means that cable subscribers are forced to pay more for programming than they would in a competitive market. In those few markets where competing cable systems are being built and operated, cable rates have been reduced substantially.[30] Studies of rate increases since deregulation disagree as to the level of rate increases, but all confirm the fact that cable rates have risen substantially. While the cable industry suggests that increases are the result of distortions created by years of rate regulation, there is evidence that cable was not covering its cost of capital under regulation. The industry has also sought to justify increases as consistent with inflation rates in the economy as a whole but has not showed that the rate hikes are attributed to actual cost increases.

Large cable MSOs appear to use their local monopoly power and aggregate size to distort the pricing of program services, resulting in higher rates than necessary for those services.[31] Program services which have not agreed to pay monopsony tribute—NBC news network and TBS music video service—have failed. As a result, consumers have fewer viewing options than they would if the cable market were workably competitive.

Large cable MSOs have also extended their monopoly power through a series of vertical arrangements to control various program services; for example, TCI and American Television & Communications (ATC) now exercise effective control over all of the Turner Broadcasting System services. In some instances, the result has been to deny cable subscribers access to competing program services.[32] Cable companies have also allegedly used their monopoly power to stifle competition both inside and outside their cable franchise areas from other industries, such as TVRO, MMDS and SMATV.[33]

A primary target of the cable industry has been the TVRO or home dish market. Beginning with an ill-fated effort by the National Cable Television Association to establish a consortium to control scrambling for all satellite program services, the cable industry has sought to restrain the distribution of satellite services to the home dish user. TBS abandoned a plan to market a package of seventeen programming services to dish owners shortly after a group of cable companies led by TCI and ATC took control of TBS.

The cable industry has also attempted to extend its monopoly power by foreclosing competition from new technologies outside the local cable franchise areas. Again, the home dish industry has been the primary target. Until faced with the threat of remedial legislation, the cable industry had frustrated development of major third party packagers by exercising its leverage on program services to force them not to deal with such packagers.[34] At the same time the largest cable MSO, Tele-Communications, Incorporated, has applied for a Ku-band direct broadcast satellite and has announced its intention to target DBS service to dish owners outside cable franchise areas.[35]

These anticompetitive practices harm consumers by denying them access to the full range of services and by denying them the advantages of direct competition. Policymakers have an obligation to deal with such practices in order to prevent the cable industry from securing and extending its monopoly.

Concentration of Control

Ownership of multiple cable systems increases the bargaining power of the cable MSO. This may well benefit the MSO when bidding for programming and may also provide more efficient operation in areas such as billing. It is not clear that consumers share in these benefits. In fact, there is little, if any, difference among the average rates charged by MSOs. In the absence of effective competition or rate regulation in the local market, each cable company has little incentive to pass the cost-savings on to its subscribers.

The existence of large MSOs also increases the difficulty of starting profitable new national program services. Large MSOs, such as TCI, can make or break a new cable service. For example, Home Shopping Network was unable to launch a new entertainment network apparently because cable operators, upset at HSN's offering its basic shopping service to broadcasters as well as to cable operators, refused to agree to the service.[36]

It is important to emphasize that it is the combination of concentrated national ownership and local monopoly/monopsony power which creates these problems.[37] Thus, indices of concentration based on national market shares are not directly relevant.

The number of cable systems (or cable subscribers) controlled by a single MSO has been a concern of policymakers since the late 1960s. In 1968, the FCC first considered the imposition of multiple ownership rules for cable. At that time the commission proposed limiting to fifty the number of cable systems which could be owned or controlled by a single entity. The FCC renewed its concern two years later.[38]

However, the FCC wisely chose not to restrict ownership at that time. Restricting ownership when the industry was in its infancy (cable penetration was only 6.5 percent nationally in 1970) could have deterred entry and delayed the growth of cable as a national medium. Moreover, such ownership restrictions, coupled with excessive regulation imposed on cable to protect broadcasters, would have crippled cable as a competitor to broadcasters.

Concentration of control has been increasing within the last several years. Current figures indicate that the five largest cable MSOs control nearly one-half of the market, with TCI alone controlling one out of four cable homes (see table 4).

The cable industry defends this increasing concentration, arguing that size brings with it certain economies and permits a more efficient operation. Even if this argument is valid, the fact that cable systems do not face adequate competition in their local markets means that there is no assurance that subscribers benefit at all from cost savings.

In order to provide greater savings to consumers, the federal government needs to tackle concentration of control. At least two alternatives are readily available:

–The FCC could adopt restrictions on the size of cable MSOs. The limitations could be based on a percentage of total number of subscribers or, preferably, of total homes passed. The latter would be more consistent with the FCC's broadcast group ownership rules

Table 4 Cable Concentration

	1983		1984		1985	
MSO	Subs	(Share)	Subs	(Share)	Subs	(Share)
TCI	2.7	(9.1)	3.5	(10.6)	4.2	(11.7)
ATC	2.4	(7.9)	2.5	(7.6)	2.7	(7.5)
Continental	0.7	(2.5)	0.9	(2.9)	1.1	(3.0)
Comcast	0.3	(1.1)	0.4	(1.4)	0.5	(1.4)
Cox	1.4	(4.7)	1.5	(4.7)	1.4	(4.0)

Source: Shooshan & Jackson, Inc.; NTIA Study, Attachment 2.

which limit the "reach" or potential audience to 25 percent of television homes.

- The Department of Justice could develop new merger guidelines for cable which take into account the ability of a cable company to exercise local monopoly/monopsony power as well as national indices of concentration. The existing Herfindahl-Hirschman Index and the department's general merger guidelines are inadequate for this task because they focus only on the national market and are not designed to measure monopoly/monopsony power in local markets.

Either of these steps would go a long way toward curbing abuses in the cable industry and facilitating competition. They would be especially welcome coming after what might be characterized as a period of "benign neglect" of these issues at both the FCC and the Justice Department over the last eight years.

Vertical Integration

There is also a growing problem with the backward integration by large MSOs into program production and distribution. Backward integration enables the MSOs to extend their monopoly/monopsony power into competitive upstream markets. Large MSOs can use their control over program services to suppress competition from competing cable companies in rare overbuild situations or from other media, such as MMDS and DBS (see tables 5 and 6).

The cable industry defends increased vertical integration by arguing that it is necessary to develop new programming. The industry points

1986		1987		1988	
Subs	(Share)	Subs	(Share)	Subs	(Share)
4.6	(11.2)	8.9	(20.8)	11.4	(24.0)
3.3	(9.2)	3.6	(10.3)	3.6	(10.3)
1.3	(3.3)	1.5	(3.6)	2.0	(4.9)
1.1	(2.8)	1.2	(2.8)	1.9	(4.5)
1.3	(3.2)	1.4	(3.4)	1.4	(3.4)

to the introduction of services such as C/SPAN and Black Entertainment Television, which have relied on MSO backing.

When cable entered a period of rapid growth between 1977 and 1982 when most of the large metropolitan franchises were awarded, new services were needed to help establish cable's unique identity as offering specialized programming to narrow audiences (hence the term "narrowcasting"). Now that cable has achieved 50 percent penetration, this is no longer necessary. Program suppliers have ample incentives to develop product for cable. Moreover, existing program services could stand on their own if they were assured of continued carriage. Programmers who have attempted to launch new services in recent years have been largely unsuccessful unless they were willing to allow equity participation or even effective control by cable operators.[39]

With channel space at a premium (average capacity is about thirty channels), equity participation has become the quid pro quo for access, with cable operators using their local monopoly/monopsony power to gain leverage over program suppliers.

Would entry occur without MSO ownership if access could be assured? In most cases the answer appears to be affirmative. For example, there is little doubt that GE/NBC has deep enough pockets to support its new cable financial news and sports service without giving up ownership interests to cable companies. Yet, soon after announcing its new service (which will evolve from the Tempo network purchased from TCI), GE/NBC indicated that it would welcome up to 49 percent equity ownership by cable companies.

Moreover, cable companies will naturally tend to favor those ser-

Table 5 Vertical Integration by Cable MSOs into Program Services

Service	MSO
HBO (pay)	ATC
Cinemax (pay)	ATC
Showtime (pay)	Viacom
The Movie Channel (pay)	Viacom
American Movie Classics (pay)	Cablevision
Bravo (pay)	Cablevision
Playboy Channel (pay)	Cablevision
CNN (basic)	TCI, ATC
CNN Headline News (basic)	TCI, ATC
Turner (basic)	TCI, ATC
MTV (basic)	Viacom
Nickelodeon (basic)	Viacom
Cable Value Network (basic)	TCI
Black Entertainment Television (basic) TCI, ATC	
Lifetime (basic)	Viacom
C-SPAN (basic)	Multiple MSOs

Source: *Cablevision*, February 29, 1988; Shooshan & Jackson, Inc.

vices in which they own an interest over other services in deciding questions of access and channel positioning. This tendency is likely to increase as cable companies expand their local advertising market and attempt to differentiate services in selling time to advertisers.

Policy Options

There should be more vigorous antitrust review of vertical integration by large cable MSOs, especially when cable firms buy into existing program services or effectively force new entrants to offer equity participation in return for carriage. This option is preferable to regulatory intervention by the FCC.

Nonetheless, the FCC should consider prohibiting cable companies from offering a program service in which they have an ownership interest. Such a rule would be in keeping with the FCC's obligation to "assure that cable communications provide and are encouraged to provide the widest possible diversity of information sources and services to the public."[40] The FCC could waive the rule, or create an exception, where it can be shown that the program service is widely

Table 6 Major Program Services without MSO Ownership

Service	Primary Owner
ESPN	ABC/CapCities
Disney	Disney
USA Network Pictures/MCA	Paramount

Source: *Cablevision*, February 29, 1988; Shooshan & Jackson, Inc.

available on fair terms to competing distribution services. In addition, the Department of Justice should consider requiring cable MSOs to divest themselves of ownership interests in existing program services.

Cross-Ownership with Other Media

Over the years the FCC and Congress have adopted a number of restrictions on the ownership of different communications media within the same market. In the case of restrictions on cable television cross-ownership, the rationale has been that diversity of ownership promotes diversity in program choices. As cable television developed, policymakers wanted to ensure that it would not be dominated by already powerful media voices (broadcasters) and that it would provide competition for established industries (telephone companies). Consequently, the FCC prohibited broadcasters and telephone companies from owning cable systems in their local markets.[41] As a result, both broadcasters and telephone companies were forced to divest most of their cable holdings.

To the extent that broadcasters, for example, were precluded from owning cable systems in the same market, they tended to fight cable's development. It was ironic that the cable cross-ownership rules which were designed to promote cable gave broadcasters an incentive to work to retain the FCC's signal carriage and pay cable rules, which protected the economic interests of broadcasters at the expense of cable.

Congress subsequently codified the FCC's rules barring ownership of cable systems by broadcasters and telephone serving the same market.[42] However, in the absence of rate regulation, and in view of the market power exercised by local cable companies, it is desirable to revisit these cross-ownership restrictions. In today's environment these restrictions have the effect of protecting cable systems from potentially strong local competitors—broadcasters and telephone companies. Also, to the extent that there is partial or complete separation between control of content and control of conduit, concerns about a loss of diversity can be addressed in a less draconian fashion than by barring cross-ownership.

Broadcast/Cable. While a number of companies own both cable systems and television broadcast stations, ownership of a cable system and broadcast station in the same market (within the station's predicted Grade B contour) has been prohibited since 1970. Congress codified this prohibition in 1984. In the absence of must-carry rules this prohibition reduces broadcasters' leverage in negotiating for carriage by removing a credible threat to compete.

Telephone/Cable. In 1970 the FCC adopted rules which prohibit telephone companies from providing cable television service to subscribers in their telephone service areas (with certain exceptions for rural areas).[43] Congress wrote a similar prohibition into the 1984 Cable Act. The Modified Final Judgment bars the Bell Operating Companies (which serve about 80 percent of all telephone subscribers) from providing "information services" which has been construed by most parties to include the provision of traditional cable television service.[44]

Policy Options

Congress and the FCC should consider removing the broadcast/cable and telephone company/cable cross-ownership rules and permit expanded local competition with cable subject to appropriate safeguards. For example, broadcasters and telephone companies that want to provide cable service in their local markets might be limited to programming a certain number of channels and required to make the remainder of a system's capacity available to nonaffiliated entities. In addition, telephone companies would have to comply with appropriate safeguards to reduce the likelihood of cross-subsidization.

Local broadcasters and telephone companies could be restricted to providing systems which would compete with established cable operators. That is, broadcast and telephone companies could be barred from purchasing existing cable systems but permitted to build competing systems. If the broadcaster or telephone company subsequently sought to buy out its competitor, it would have to conform with the appropriate content/conduit separation requirements.

Telephone Companies as Broadband Carriers

The cable/telephone cross-ownership rules discussed in the previous section envision a world in which cable television service and telephone service are delivered over separate facilities. This view is logical given the development of the technology for local distribution. Copper wire has been adequate for providing voice service and for most basic data applications. However, it cannot be used for full-motion video. Cable television has been provided over coaxial cable which has the necessary bandwidth for delivery of video programming.

Moreover, as a result of differences in the nature of the services being provided, telephone companies and cable companies developed different network architectures. The telephone network employs a switched star architecture, while cable system architecture is commonly referred to as "tree and branch."

The advent of fiber optics threatens to change this environment dramatically. The use of fiber in telephone company local networks means that telephone companies will have the bandwidth needed for video transport. In addition, cable companies will have the opportunity to redesign their networks with fiber to compete more effectively with telephone companies in the voice and data markets. Thus, the line between cable and telephone service will be blurred by technology.

While technology may permit competition in the offering of integrated broadband networks, the cable/telephone company cross-ownership prohibitions appear to inhibit it. In the first place, as mentioned earlier, telephone companies are barred from providing cable service over their own broadband networks. There are no restrictions in the 1984 Cable Act or in FCC rules on the services that cable systems can provide.[45] Lifting those cable/telephone company cross-ownership restrictions completely could facilitate competition in the offering of integrated broadband services.

However, even if telephone companies continue to be barred from owning or controlling programming and are effectively restricted to transporting programming owned or controlled by others, the FCC should consider revising its rules to remove unintended barriers to telephone companies providing broadband transport and "video gateways" over an integrated network. Those barriers are created by language in a footnote to the commission's rules which elaborates the use of the terms "control" and "ownership."[46] The footnote has the effect of expanding the rule and arguably goes beyond the intent of Congress in codifying the rule. The note bars any financial or business relationships other than the "carrier-user relationship."

In seeking to provide broadband transport a telephone company might want to enter into a business or financial relationship with an unaffiliated entity which is not strictly that of a traditional carrier and user, particularly as the carrier function changes over time. For example, since the FCC has now deregulated billing and collection, the footnote might be read to bar telephone companies from providing billing for an unaffiliated video programmer. Providing a "gateway" or menu of available services (while permissible under the MFJ) may not be a carrier function under the FCC's *Computer Inquiry* rules, thereby calling into question whether telephone companies can even offer a video gateway consistent with the language in the footnote. Moreover, a telephone company providing broadband transport/video gateway should have the flexibility to advertise and otherwise market the services available on its network.

The 1984 Cable Act includes a requirement unrelated to the cross-ownership prohibition, but which could impede the deployment of broadband transport and video gateways by telephone companies. A literal reading of the 1984 Cable Act would appear to require either the telephone company, a programmer or both to obtain a cable franchise before offering video service over an integrated broadband transport system. While Congress clearly intended all entities, including telephone companies, to obtain franchises in order to construct a cable system and provide cable service, Congress could not have had the integrated broadband system in mind or have intended that each person leasing capacity on such a system obtain a franchise.

To the extent that a telephone company uses existing telephone rights of way, poles, ducts and conduit to provide broadband transport as a carrier, there may be no legal basis for requiring it to obtain a local cable franchise. This is especially true where the existing telephone franchise is broad enough to encompass broadband delivery of video, along with voice and data, to subscribers. Also, when a channel programmer leases capacity from a telephone company, it should not have to obtain a franchise. Indeed, placing such a restriction on a programmer raises serious First Amendment issues quite apart from those relating to franchising authority generally. Customers (the programmers) have no impact on streets or rights-of-way and, therefore, cities lack the nexus for placing any restrictions on those customers' ability to engage in free speech which is otherwise protected by the First Amendment.

Policy Options

To carry such policy changes forward, and particularly to encourage the development and availability of news technologies, the FCC should revisit its cable/telephone company cross-ownership rules and eliminate the barriers to telephone company provision of broadband transport and video gateways. Ideally, Note 1 should be eliminated completely.[47] If the FCC chooses not to eliminate the footnote altogether, it can rewrite the note to indicate not only what is prohibited, but also what is permitted. This will help to avoid long regulatory proceedings in which cable operators can tie up telephone companies and delay competition.

The FCC should also amend its rules to eliminate the requirement that telephone companies lease capacity for the provision of video service only to franchised cable operators. While such a restriction may be defensible where separate facilities are involved, its application to an integrated broadband network would unnecessarily deter various program services from leasing capacity on such a network. In addition, Congress should clarify the 1984 Cable Act requirement that an entity must have a franchise in order to provide video services to subscribers. There is no basis for requiring a telephone company or its customers to obtain a local cable franchise if service is being provided over an integrated broadband transport system.

Control of Content and Conduit

A number of problems surrounding cable television could be alleviated if cable operators were divorced from control over programming, in other words, if there were separation of content control from conduit control or transmission system ("separation") control. This is essentially the model just discussed for telephone company provision of broadband video services. For example, separation would alleviate concerns about cable operators favoring program services in which they have an ownership interest. It would also obviate limitations on multiple systems ownership.

The concept of separating control of conduit from control of content is not new. In 1971 the Sloan Commission on Cable Communications recommended such an approach.[48] It proposed that, after channels were set aside for local broadcasters and public access, the cable operator be required to make available all but two of the remaining channels on a first-come, first-served basis. The cable operator could retain control over the use of two channels, plus any which were not leased.

In 1974 a similar approach was a central recommendation of the Cabinet Committee on Cable Communications in its report to the president of the United States. A year later the Research and Policy Committee of the Committee for Economic Development endorsed the concept. In 1976 the staff of the Communications Subcommittee of the U.S. House of Representatives issued a study which recognized that imposing separation at that stage of cable's development might be harmful, but which recommended applying separation after ten years.[49]

Cable operators have had a major role in developing the cable program services which provide cable subscribers with important viewing options. To have barred operators from any control over programming in cable's early years would have been a mistake. It would have greatly retarded the industry's growth and would have denied consumers valuable new services.

However, with cable now a mature industry, and in view of the problems created by increasing concentration of control and backward integration by the large MSOs into programming, separation needs to be seriously considered. Policymakers should be concerned when cable's monopoly/monopsony power is used to deny viewers additional options or to induce program services not to deal with competitors to the established cable company. Also, there appears to be ample interest today on the part of independent entities to develop cable program services.

There is precedent in other industries for requiring such restructuring when dealing with an established firm. For example, IBM was forced to divest itself of its computer service bureau in order to encourage competition in that market. More recently, AT&T agreed to divest its local operating companies (which had been the genesis of the company) to facilitate competition in the long-distance and equipment markets.

The "commercial access" provisions of the 1984 Cable Act are not sufficient to deal with the problems raised here. The Cable Act does not create a definitive right of access for an unaffiliated person, it simply gives an aggrieved party the right to sue if that party is denied access. Moreover, the act allows the cable operator to establish the prices, terms and conditions for access with the only standard being that the use "not adversely affect the operation, financial condition or market development *of the cable operator*" (emphasis added). The aggrieved party must prove that the prices, terms and conditions are not reasonable. Requiring a start-up program service to pursue access on a system-by-system basis with the potential for a protracted legal and regulatory proceeding in each case is hardly conducive to promoting competitive entry.

Congress should therefore consider imposing separation or an effective leased channel requirement on cable operators. If Congress decides to reimpose the broadcast "must-carry" rules, it should consider these issues at the same time. There is no compelling basis for resolving the access problems of broadcasters without addressing the broader question of access.

Competition from Other Multichannel Services

This essay noted the extent to which cable companies appear to use their market power to thwart direct competition from other multichannel services. The cable industry appears to impede the growth of the TVRO or home dish industry, first by trying to control the scrambling technology and then by imposing difficulties for national third-party packagers to gain access to programming at competitive rates. The cable industry is also attempting to extend its geographical monopoly by taking control of the sale of satellite services to dish owners outside cable franchise areas.

It has been alleged that the cable industry has also coerced program services not to deal with MMDS operators or with competing cable companies.[50] Ironically, the cable industry now asserts its interest in programming exclusivity while having decried the exclusivity practices of the broadcasting industry (particularly the networks) in the 1970s. Moreover, cable does so while continuing to be the beneficiary of the compulsory license which gives it access to the programming of both local and distant broadcasters.[51]

Neither the Department of Justice nor the FCC have been particularly vigilant in looking into these practices. Both tend to look the other way in the name of "efficiency factors" and have opted for continued monitoring—a policy of benign neglect.[52] Policymakers should be much more aggressive in investigating practices which have the effect of deterring direct competition with cable systems. For example, the FCC could require that program services which are delivered by satellite or terrestrial microwave for distribution by cable systems are also made available to alternative distribution systems. At the same time, exclusive program arrangements should be carefully scrutinized by the Department of Justice and by the FCC where they involve the exercise of local monopoly/monopsony power.[53] Most important, Congress should immediately repeal the cable compulsory license and require cable operators to bargain for their programming under full copyright liability. Alternatively, Congress could extend the compulsory license so that cable programming is available to competing multichannel services.

Cable television plays an important role in delivering video entertainment programming to the home. In fact, with more than half of all television homes receiving their television from cable systems and with those systems passing over 80 percent of households, cable is a dominant player in video distribution and certainly the dominant player when it comes to multichannel distribution. Cable television has brought with it an expanded range of program services which give subscribers attractive options.

However, in looking to the future it is important that policymakers recognize the problems which exist with regard to the cable industry today (lack of effective competition in local markets, concentration of ownership on a national level, and increasing integration into ownership or control of distribution channels and programming) and take the necessary steps to ensure a competitive video distribution marketplace. Consumers will benefit through lower rates and expanded choice.

Use and Management of the Spectrum Resource

Charles L. Jackson

When Newton used a prism to spread white light into a rainbow, he referred to previously hidden colors as "spectral" colors. The terminology persists. We now refer to the range of colors or frequencies in a light source as the spectrum of that light source. And we refer to the range of possible light waves as the visible spectrum. The terminology carries over naturally enough when talking about radio waves. Radio waves are, after all, electromagnetic radiation just like light waves, except they are a different "color," or located in a different part of the electromagnetic spectrum.

Over time, communications professionals began to refer to the policy of managing radio systems as "spectrum management." This semantic jump has strengths and weaknesses. It is a useful generalization—it helps practitioners face problems from a broader perspective. But it makes it less clear that spectrum policy and spectrum management are simply policy about radio transmitters and receivers.

Spectrum management consists of two fundamental decisions: who gets to operate radio transmitters and receivers and what rules govern that equipment? Spectrum management also balances cost, quality, and diversity in any radio service.

Consider a few examples. The FM aural broadcast band consists of 20 MHz of spectrum, broken into one hundred channels, each 200 KHz wide. Had we chosen AM modulation rather than FM, we could have accommodated 1,000 to 2,000 channels on the FM band. Receiver costs would have been about the same, but the sound quality would have been lower.

We face a similar choice in television today. Much has been learned about compressing television signals into narrower channels. We could, if we wished, develop new television standards which maintain current quality but allow more stations to operate in each market. Alternatively, we could develop new television standards which improve quality and allow as many stations to operate in most markets as operate today. The latter choice appears to be the alternative we are selecting in this country; the alternative of constant quality and increased diversity in television appears to be discarded almost without discussion.

Decisions about radio system design and standards represent a trade-off between different aspects of the public's interest in communications. More diversity is almost always possible by sacrificing spending quality or spending more money.

The basic problem in spectrum regulation is easily stated. Our current spectrum regulatory institutions were designed to administer a plentiful resource, not to manage a scarce one. Indeed, it is doubtful that the early designers of radio licensing procedures thought of their task as resource management. Rather, they probably envisioned regulation as a coordination problem—a setting of the rules of the road so that interference could be controlled and the use of the spectrum would be orderly. The current spectrum regulatory process works well in regions of the spectrum where there is little or no scarcity. It breaks down almost completely when scarcity occurs. Fundamental reform is required to manage scarcity.

The Radio Spectrum

The usable radio spectrum covers a wide range of frequencies and has a correspondingly wide range of properties. Below about 30 MHz, radio waves tend to travel long distances, well beyond the horizon. The use of these frequencies is therefore subject to international agreement and cooperation. These frequencies are mostly used for long distance communications, though this range also includes the familiar AM broadcast band.

The most valuable section of the spectrum is the VHF and lower UHF—the region from 30 MHz to 1,000 MHz. This region can support television broadcasting, land-mobile radio, aural broadcasting, and almost any other communications need. It gives good coverage, and radios operating in this range can be built at reasonable cost today.

Above roughly 1,000 MHz (1.0 GHz) radio waves tend to travel in straight lines from transmitter to receiver and their propagation is blocked if there is not a line-of-sight path from transmitter to receiver. In this band frequencies are normally used for point-to-point communications such as microwave links and radar. There are some terrestrial broadcasting applications at such frequencies,[1] but this region of the spectrum tends to be used for nonbroadcast applications. Direct Broadcast Satellites (DBS) may change this in the future.

The Evolution of the Regulatory System

Regulatory institutions and methods governing spectrum have evolved slowly. It is instructive to look at the problems facing the people who constructed those systems to understand better the regulatory structure they passed on to us.

Marconi developed a practical system of electrical wave telegraphy which he demonstrated to British officials in 1896. Only ten years later, an international conference was held in Berlin to set rules and standards for the use of the radio spectrum. Between 1906 and 1910 radio operations were restricted to what we now regard as low frequencies, those below a few MHz. Electromagnetic waves with frequencies in this range propagate distances up to several hundred miles. Stations using turn-of-the-century technology could interfere with one another if they were within fifty to one hundred miles of each other and tried to operate on the same frequency.

Traffic was limited. Large ships were the predominate users of wireless telegraphy and, in 1910 only 30,000 commercial ships weighed more than 100 tons.[2] Wireless telegraphy greatly increased the protection of life and property at sea by providing endangered ships with a voice to call beyond the horizon for help. Radio was also heavily used for military communications, primarily by the navy.

Radio regulations early in this century included agreements on standard signaling systems, assigning specific frequencies to specific land stations, monitoring of specific frequencies for distress signals, and requiring all ships above a certain size to carry radio gear. When a ship considered installing radio gear, the owner benefited from the improved safety for ship and cargo but did not directly benefit from the improved safety that came to other radio equipped ships on the sea lanes—since the first ship could respond to radio messages for help.

Thus, the system of wireless telegraphy needing regulation in 1906–10 experienced little or no scarcity, a great need for frequency coordination, and a public goods component in many decisions and rules. These three factors fit well with a centralized command and control resource management system. Looking back, it seems that radio spectrum management began when the spectrum was a resource more like unlimited address space than like offshore oil. Ronald Coase, in his seminal article on the Federal Communications Commission, passes over the early legislative proposals for radio regulation concerned with safety operations, mandatory installation of radio equipment, and the like to focus on proposals to give the government exclusive control of the spectrum.[3] Careful consideration of the problems of maritime operations early in the century makes the press for government monopoly more understandable.

While maritime communications demonstrated an early need for centrality and control, the special problems of AM radio demonstrated the need to make order out of chaos. In the early 1920s radio broadcasting began to grow rapidly, operating on frequencies around and on the current AM broadcasting band. The AM band has good long-distance propagation properties at night, which means that interference can be a problem between stations located hundreds of miles apart. By April 1926 series of court decisions had removed any regulatory control over a broadcast station's choice of transmission frequencies or of broadcasting hours.[4] There were not enough different positions in the AM band to satisfy all claimants, and broadcast listeners, although beneficiaries of broadcast programming, were not parties to the programming decisions. The absence of control led to a period of disorder which put great pressure on Congress to devise a system of broadcast regulation.

Congress brought the Federal Radio Commission into being in early 1927. The language of the 1927 act was carried over into the Communications Act of 1934 which established the Federal Communications Commission. Given the environment and experience which helped foster the law, it is not surprising that it created a system which gives the FCC extensive control over all technical aspects of a licensed transmitter. Congress gave the FCC a vague statutory standard of the "public interest, necessity or convenience" to guide it in its spectrum management task.

What if the 1927 broadcasters had used technology comparable to current FM broadcasting technology in the frequency spectrum range from 100 to 200 MHz? At these frequencies there is little interference beyond the horizon, and the 100 MHz of spectrum could accommodate 200 stations in every major urban area. In addition, suppose there had been no prior experience with maritime radio. Assume also that the technology was such that transmitters were expensive, costing about $100,000 a year to operate, but receivers were inexpensive, costing $10 per year to operate. With this technology and cost structure there would probably be vacant frequencies in every city. It would be necessary to prevent two transmitters from operating on the same frequency in any one location. Regulation would be necessary, but it would be minimal. It is hard to imagine regulators creating a fairness doctrine, and, in the unlikely event that they did, the courts would probably strike it down as being in clear conflict with the First Amendment.

Regulation

Many justifications are offered for regulation,[5] including:

- Enforcing community moral standards, such as antiobscenity laws and prohibitions against cruelty to animals;
- Reducing transactions costs,[6] such as state calibration of butchers' scales and gasoline pumps;
- Continuing a tradition of regulation, such as the postal service, land transportation regulation after the invention of the truck, and restrictions on child labor;
- Protecting consumers by substituting expert skills for the general skills of the consumer, which also reduces consumer uncertainty about unknown products;
- Reducing negative externalities, such as regulation limiting aircraft noise, which attempts to balance the benefits of air transportation with the costs of noise and other pollution;
- Controlling positive externalities, such as requiring that television receivers be equipped with UHF tuners, which increases the quality and quantity of broadcasting available to other viewers;
- Assessing responsibilities for public goods, such as fireworks displays or television broadcasts;
- Protecting against monopoly-induced market failure to assure public access to goods and services otherwise unavailable.

Radio regulation has been justified by some of this reasoning. A wide variety of electronics systems radiate electromagnetic energy or are readily affected by electromagnetic radiation. The following cases illustrate the problems and the advantages associated with such regulatory behavior. Each generate problems requiring regulation, although the reasons differ from case to case.

Transmitter Regulation

Maritime Radio 1900–25. Regulation here was necessary to avoid or reduce transaction costs, especially those required to control the extensive negative externalities created by interfering radio transmissions on the same frequency at the same time. Regulation of maritime radio served other needs as well. Radio transmitters and receivers on ships create positive externalities. Giving each ship the ability to respond to distress signals from other ships benefits all ships.

Television Broadcasting Today. Television broadcasting regulation focuses on community and moral standards and problems created by the limited number of broadcast outlets. The concern over violence and sex on television which created the pressures that led to TV's family hour or its indecency standards seem most clearly an issue of moral standards. The demands for access to the airwaves expressed in the fairness doctrine and the Federal Communications Commission's personal attack rules stem from concerns about monopoly abuse. Broadcasting creates public goods, and regulation may be necessary to provide sufficient amounts of that good.

Point-to-Point Microwave Links. The only reasons to continue to regulate such systems are to reduce transaction costs. A property rights system would probably be more efficient.

Incidental Radiators. Automobile ignition systems, electrical motors, or computers all exhibit the negative external effects of noisy electrical systems. Regulation is probably the most efficient way to control these effects.

Industrial, Scientific, and Medical Equipment. Equipment such as radio frequency (RF) stabilized arc welders or diathermy machines generate electromagnetic radiation as a natural side effect of their operation. Specific radio bands are set aside for such equipment. (This is analogous to zoning one part of a town for industrial rendering plants or smelters.) The major incentive to regulate is to control negative externalities cheaply. Additionally, consumers are protected against their ignorance of the effects of radiation on other systems.

Changes in the Medium. This phrase refers to activities which change the nature of the path that carries a radio signal. Such changes lie on the edge of regulation today. For example, in 1972 the Illinois Citizens Committee for Broadcasting (ICCB) sued the FCC to halt the construction of the Sears Tower in Chicago to avoid possible ghosting of commercial television;[7] similar cases include the building of the World Trade Center and airplane flight patterns interfering with television reception. The ICCB suit was an attempt to control an expected problem which would flow jointly from the construction of the Sears Tower and TV broadcasting.

Receiver Regulation

Domestic Satellite Receive-Only Earth Stations. The FCC permits licensing of domestic satellite receive-only earth stations but no longer requires it. The licensing process requires a frequency coordination step to insure that the receiver will not be subject to interference from common carrier microwave systems or satellite systems operating on the same frequencies.

Licensing the receive-only earth stations benefits the owner of the receiver because the receiver becomes a recognized spectrum user and is protected against the creation of new links that might cause interference. However, this is expensive protection. A receive-only ground station, as used by cable television systems, costs about $10,000. The frequency coordination process, usually performed by consulting engineering firms, normally costs $1,000. (These charges cover the costs of maintaining the data bases, contacting other users, and other administrative tasks.) Consumer receive-only ground stations are much less expensive, costing about $2,000. Clearly, an administrative process which increases the costs so much can be justified only if its benefits are significant.

Originally, the FCC required licenses for all satellite earth stations. Only several years after the development of low-cost receive-only earth stations did the FCC amend its rules to allow for the operation of unlicensed receive-only earth stations.

In this case the FCC offers a reasonable choice to the operators of receive-only earth stations: they can pay the administrative costs and get protection, or they can avoid the administrative costs and go without protection. It took years to match policy to new technology.

Incidental Receivers. Electrical equipment not specifically designed to act as receivers will sometimes do so. The problem comes from electrical equipment such as electric organs, stereo systems, or even television receivers that can act as receivers of undesired fields and have their performance degraded. For example. when a consumer's $500 color television set stops working because an amateur radio operator has moved in next door, serious conflicts erupt between the two. In 1982 Congress gave the FCC the authority to "[establish] minimum performance standards for home electronic equipment . . . to reduce their susceptibility to interference from radio frequency energy."[8] The purpose of such legislation was to reduce transaction costs by avoiding the effects of consumer ignorance and to reduce the uncertainty consumers face when purchasing such goods.

The potential direct costs of this legislation include the addition of overprotection features in the design of all equipment to meet excessively tight constraints, the provision of interference protection hardware in equipment that has no need for it, and the costs of the certification process. The benefits flow jointly to owners of electrical equipment that would be interfered with and operators of transmitters, mostly operators in the citizens and amateur services, whose transmissions do not create problems for their neighbors.

Better cures are possible than regulation of electronic equipment design. One simple cure would be recognition in statute and throughout the legal and social system that harms caused by licensed transmissions must be accepted—that there is no remedy except nonsusceptible equipment. The problem with this solution is that the consumer might not be aware of the potential problem until he or she has purchased equipment and finds that it does not work properly in the presence of extraneous fields. This could be remedied by requiring manufacturers either to warrant electronic gear as being able to operate in common extraneous fields or to disclose prominently the equipment's interference susceptibility. Thus, the manufacturer and the consumer could both trade off interference protection against cost.

UHF-TV Receiver Improvement. In 1962 Congress amended Section 303 of the Communications Act of 1934 by passing the All Channel Receiver Act[9] to give the FCC the power to require that TV receivers be capable of receiving both VHF and UHF signals adequately. The FCC, at the urging of UHF broadcasters, changed the performance requirements for UHF television sets making them more sensitive and better able to pick up weak signals.

The need for legislation was stated in the Senate report on the All Channel Receiver Act: "There is thus a vicious cycle; refusal by the public to buy UHF sets until there are UHF stations offering attractive programs, and the inability of UHF broadcasters to provide good programming in the absence of an audience which will attract advertisers and networks." Here the argument for regulation is clearly based upon the existence of positive externalities. When you buy a UHF receiver your neighbor is probably better off —since UHF broadcasters will have more viewers, get greater advertising revenue, and therefore provide him or her with better programming alternatives. But this increment to his or her welfare is not available to you and thus is probably not reflected in your decision. Hence, if your choice between a VHF-only television receiver and a combined VHF-UHF receiver were guided by regulation, efficiency will be served.

Congress chose to prohibit the sale of television sets without UHF tuners. It would have been more efficient to determine the magnitude of the public benefits flowing from the purchase of a combined UHF-VHF set and place a tax equal to that amount on VHF-only sets. Were technology to change—if, for example a new technique were developed for manufacturing VHF-only sets which made them much cheaper than UHF-VHF sets—consumers would be able to make the efficient choice. Arguing against this more general approach, however, were technology trends reducing the costs of the UHF tuner and the political difficulty of passing this tax.

Prohibitions against Eavesdropping. Radio Regulations,[10] the Communications Act of 1934, and the FCC rules all prohibit the interception and disclosure of nonbroadcast radio communications. Some states have prohibited the use of special receivers to detect radar equipment for measuring automobile speed.

Such rules grow out of needs other than the allocation of a scarce resource. They are statements of community standards and concepts of privacy or are attempts to create and protect intellectual property. Privacy is involved when the rules lead to prohibition of the interception and disclosure of personal radio telephone calls or radio telegrams. Intercepting radio telephone calls for commercial advantage is prohibited, as is the interception of television programs distributed by domestic communications satellite. Clearly, the purpose of these regulations is to make radio communications more valuable by giving it an extra dimension of security and privacy.

Maritime Safety Channel Monitoring. Article 35 of the Radio Regulations requires public correspondence coast stations[11] providing maritime mobile service to keep watch on the distress frequency 2,182 kHz, and ships are urged to keep the maximum watch practicable on this frequency. Section 351(a)(2) of the Communications Act of 1934 requires large ships to carry radio direction-finding gear for use in locating ships in distress.

Such regulations serve two purposes. First, they establish and identify a frequency for distress signaling use. Assigning a single address to this function allows emergency equipment of a specific ship to interconnect with search and rescue equipment anywhere in the globe. Second, the regulations require actions which generate positive externalities. Keeping watch over the distress frequency places costs on coast stations but does not bring direct revenue to the coast stations. Similarly, ships which carry direction finders benefit other ships. In a narrow sense channel monitoring is uneconomic, but, more broadly, the benefits flowing to mariners change the calculus of cost.[12]

Radio Astronomy. Astronomers have special spectrum needs. Although they do not transmit, they operate sensitive optical and radio receivers which can be rendered inoperable by interfering signals. A radio astronomy observatory represents a substantial investment; for example, the radio astronomy facility in Puerto Rico represents a capital investment of $15 million and has an annual operating budget of $4 million.

Radio astronomers are not regulated; that is, a decision to build a radio telescope is not conditional on FCC approval or conformity with radio regulations. But radio astronomers can register their receivers and their use of a frequency with the International Telecommunication Union (ITU) and receive the same protection as a communications service against the building and operation of new transmitters. This is an excellent example of the benefits of the coordination function of frequency management. Were there were no spectrum scarcity at all, radio astronomers would still require protection against transmitters which could interfere with observations. Much of our current regulatory structure would be needed in a world without spectrum scarcity. Such regulation attempts to reduce the costs of coordinating radio astronomy use of the spectrum with communications uses.

A significant amount of radio regulation flows from reasons other than the need to allocate the use of a scarce resource. The reduction of transaction costs applies in the greatest number of cases. All attempts to regulate these transaction costs represent arguments that a centralized administrative system can best manage the flow of information and decisionmaking required to prevent the harmful external effects, interference, of transmitters. Nonetheless, the system to control these externalities extends into the control of a host of activities far removed from the elemental need to promote efficient use of the underlying spectrum resource. The most clear cut examples of this are the regulations imposed on the improper use of receivers—for example, to steal information. But prohibition of obscenity or indecency on television is also rooted in needs other than efficient resource management.

The Current Regulatory Structure for Spectrum

Three institutions currently establish and monitor our system of spectrum regulation: the International Telecommunication Union, the Federal Communications Commission, and the National Telecommunications and Information Administration.

The ITU is a specialized agency of the United Nations, although it grew from the earlier International Telegraph Union organized in the middle of the nineteenth century. The ITU now has 174 member nations. As its name suggests, it is an international body concerned with coordinating telecommunications operations among its members. For example, the ITU develops and distributes standards for the interconnection of national telephone systems. It plays two major roles in radio communications. Through meetings of its members in Administrative Radio Conferences, it develops the International Radio Regulations. The Radio Regulations give priority in most services to the first user of a frequency. The ITU also operates the International Frequency Registration Board (IFRB), which records frequency assignments made by each country and keeps a record of first use.

Were resource scarcity a major problem, we would expect an institutional mechanism for preallocation of the resource, rather than a first-come, first-served system. However, if the problem is management or coordination of a nonscarce resource, then the IFRB is an excellent institution. A first-come, first-served rule is an objective and quite fair mechanism for choosing between two competing users of a radio frequency. Furthermore, the first-come, first-served rule forces users to supply the information needed for effective coordination. Only in the last few years, in some radio services (notably satellites), has the ITU moved away from a complete first-come, first-served approach.

The Federal Communications Commission is an independent regulatory agency created by Congress in the Communications Act of 1934 to regulate communications common carriers and civil users of the radio spectrum. The FCC allocates the spectrum to classes of domestic users, such as television broadcasters or land-mobile radio operators, through rulemaking proceedings. Individual licenses within a service are assigned according to the criteria set forth in the rules.

Federal government spectrum use is administered by the National Telecommunications and Information Administration (NTIA). The Interdepartmental Radio Advisory Committee (IRAC), a committee formed by representatives of most radio-using agencies within the federal government, assists NTIA in frequency management.[13]

The domestic spectrum management system is relatively inexpensive. The entire FCC budget is only $100 million per year, and the NTIA frequency management budget is approximately $8 million per year.[14] However, it lacks flexibility and requires a long time to reach decisions. This rigidity reflects organizational structure on the one hand and, on the other, the impact of vested interests created both by sunk costs in current equipment and by the benefits of current spectrum allocations.

We have a system suited to an era of slow technical change. It is a system that works best with a relative abundance of the spectrum resource. And it is a system designed with great concern for the public goods aspect of resource use.

Spectrum Allocation: Cutting the Pie

The spectrum management process can be drawn as a three-step process—allocation, allotment, and assignment. Allocation refers to the process of setting aside a block of spectrum for a specific use. For example, the frequencies 88-108 MHz are set aside for FM broadcasting. Inside this band decisions are necessary concerning channel size and spacing and technical standards. One further step is allotment—choosing which channels will be used at each city. Finally, licensing assigns a specific frequency to a specific station.[15]

The allocation process determines how many stations will be available to license. There is a significant controversy today over spectrum allocation in the UHF band. There is little unallocated spectrum available today in the most valuable regions of the spectrum—those best suited to land-mobile and television broadcasting. If more spectrum is to be made available to land-mobile operators, it must be reallocated from UHF television or government uses.

The land-mobile community has been pressing for such reallocation for years. In many communities there are unused UHF television channels which could be used for land-mobile radio.[16] Use of these channels to accommodate growth in land-mobile usage puts off the day when the land-mobile community will have to replace its existing stock of equipment with newer, more efficient equipment. Moving to new equipment standards will be both expensive and disruptive. Both manufacturers and users can be expected to want to defer this for as long as possible. Thus, both groups push to permit land-mobile sharing of UHF television channels. However, the broadcast interests have been able to convince the FCC to delay UHF sharing until the completion of a comprehensive examination of broadcasting needs for that spectrum to accommodate advances in television technology—principally high-definition television (HDTV). The term "Advanced Television" (ATV) has been coined to refer to the next step in the evolution of television, which may include HDTV, improved sound quality, wide-screen pictures and other features. Advanced television is important to broadcasters since, if consumers prefer advanced television, and existing broadcasters cannot provide it, they will lose viewers to cable, videocassettes, and, perhaps, direct broadcast satellites.

The FCC has established an Advisory Committee on Advanced Television which is examining systems available for improved television, costs, compatibility with current standards, and the need for additional spectrum to accommodate these systems on over-the-air television, etc. This process is the most complete technical examination of the television production and distribution process ever undertaken.

The ATV inquiry is a once-in-a-generation opportunity to review the use of the VHF and UHF spectrum allocated to broadcasting. It may well be possible to pack UHF television stations more tightly and free spectrum for land-mobile or for additional broadcast stations. This opportunity to improve the use of the UHF spectrum should be considered carefully—such opportunities come rarely.

Management Tools

Spectrum management consists of more than just dividing up the resources. Regulators also have to police the rights they have created. Frequency coordination, equipment authorization and field enforcement are tools the FCC uses to police the use of the spectrum.

Frequency coordination—enforcing the principle of first-come, first-served—is a basic tool of spectrum management. FCC regulations for the private mobile radio and private fixed radio services, the broadcast auxiliary radio service, and the cable television microwave service all incorporate frequency coordination. The common carrier frequency coordination process is the most stringent, requiring affirmative prior notification of nearby licensees by the applicant and a thirty day waiting period before an application may be filed.

In the private radio services the license application must affirm that frequency coordination was accomplished, but this need only be a computerized analysis without prior notification of other licensees. For the private mobile radio frequencies that are allocated to an individual service (for example, Police Radio Service), the FCC designates an entity (usually a trade association) to handle the frequency coordination process. For the private fixed radio service, frequency coordination is done by the same contractors that do common carrier frequency coordination.

In the broadcast auxiliary radio services, used for electronic news gathering, frequency coordination is most often accomplished by informal local committees made up of television and radio station chief engineers. Since cable television operators share microwave frequencies with broadcasters, they also participate in these local coordination committees. However, the coordinating committees are generally dominated by the broadcasters and there have been concerns of potential discrimination expressed by the cable television industry. These concerns have never evolved into any formal complaint to the FCC.

Frequency coordination is an essential element of spectrum management, but it is an element that is totally in private hands. Its purpose is to engineer a solution to an applicant's spectrum needs and to register that solution as a property right. Through frequency coordination potential interference disputes are resolved in the theoretical stage, before they become real cases of interference. Frequency coordination is a tool which works best in uncongested regions of the spectrum—where the problem is fitting users in without interference, not dividing up a scarce resource.

FCC *equipment authorization regulations* are imposed upon equipment manufacturers, most other FCC regulations apply to licensees. Manufacturers must supply equipment that complies with the FCC technical regulations. For the most part the FCC's technical regulations for radio services concern output power, occupied bandwidth, frequency stability, and modulation. For virtually every radio service, equipment cannot be marketed unless it meets the technical specifications for that service.[17] It is illegal to market noncompliant equipment.

Until the early 1980s there were three categories of equipment authorization: type acceptance, type approval, and certification. Most transmitters were subject to type acceptance, which requires the manufacturer to submit equipment measurements to the FCC for review and approval. Transmitters essential to life and safety, like Citizen Band transmitters (CB), are subject to type approval, which requires the manufacturer to submit a unit of equipment to the FCC for it to make the measurements. Certification is similar to type acceptance, but it applies to incidental emitters, like television tuners, and unlicensed low-power transmitters, such as garage door openers.

In the early 1980s the FCC added two additional categories, notification and verification. Notification is a less complicated version of type acceptance—the manufacturer must make the same measurements, but then need only submit to the FCC a sworn statement that he has made the measurements and determined that the equipment complies with the FCC technical regulations. Verification is even easier—the manufacturer must still make the measurements, but if the equipment is confirmed to comply with the technical rules, then the manufacturer need only apply a label to the equipment affirming the compliance; no forms must be submitted to the FCC.

In the past few years the FCC has moved a number of classes of transmitters from the type acceptance category to the notification category, such as point-to-point microwave transmitters, and proposes to move some from notification to verification. The FCC has justified these charges by pointing to the reliability of equipment manufacturers in complying with technical rules. Thus, regulatory delays have been substantially reduced.

The FCC's Field Operations Bureau enforces its prohibitions on interference and its equipment authorization program. Although the FCC does not have the authority to prosecute violators (that power lies with U.S. Attorneys), its Field Operations Bureau does have authority to raid violators and seize equipment.

In recent years a number of seizures have been publicized, including: computers emitting more radio energy than is allowed by Part 15 of the FCC rules; illegally modified CB transmitters transmitting more than the allowed four watts of power; and low-power television broadcast transmitters meant to transmit a video signal from a VCR in one room of a home to a TV set in another room. Seizures are usually implemented for violations of the equipment authorization regulations.

Raids, which may also include seizure of equipment, are usually directed against persons operating transmitters to cause deliberate interference. Most recent raids have taken place against amateur radio licensees causing interference to other licensees.

The resources we will devote to spectrum management are limited.

We must choose the level of support to give each of the various elements of spectrum management—licensing, equipment authorization, field enforcement and other elements. The choice of the proper mix of these elements is a difficult task.

Strengths and Shortcomings of the Current System

Assessing the strengths and weaknesses of the current system poses difficulties since there are no radically different national models to compare with our system. The international system, and most other national systems, are also centralized command-and-control regulatory systems which employ block allocation techniques extensively. Therefore, the best source of concrete comparisons is among the different services. What are the visible strengths and weaknesses in each service?

Innovation. Innovations are adopted quickly in the satellites and microwave services, less quickly in land-mobile, and very slowly in the broadcast services. The differences in regulation reflect differences in the underlying economics imposed by the technologies. For example, a satellite system operator can begin using a new modulation system with little or no impact on other systems. The only accommodations needed are in the equipment in his or her system. A broadcaster using a new modulation system, however, will normally require new in-home receiver equipment before the benefits can be realized. It therefore makes sense to have the FCC review any decision on use of new standards which affect many consumers and may affect the competitive balance in broadcasting. Even minor improvements in broadcasting can be expected to be subject to greater regulatory scrutiny than similar improvements in microwave or satellite services.

This greater scrutiny, together with the FCC's desire for reasonable consensus in support of its policies, leads to protracted decision-making. Even the smallest improvements in broadcasting technology are entangled in long FCC proceedings.

Similarly, radically new services or major improvements in existing services normally require a change in FCC rules. A party wishing such an improvement must necessarily disclose any new technology

or new applications which underlay a claim for a change in the rules or the allocation of new spectrum. Such disclosure alerts competitors, who can enter and reduce the value of the innovation to the party proposing it. Thus, the regulatory system reduces incentives for a significant class of innovations.

The experience of rapid, easy innovation in satellite systems has led some to advocate trying to structure licensing in other services in a fashion similar to satellite systems.[18] For example, a single channel could be licensed to one firm or individual on a nationwide basis. The primary technical constraints would be that transmitters control interference outside that licensed channel, but technical standards and the location of transmitters inside the channel could be deregulated. The licensee could trade-off between transmitter separation, cost and service. The licensee would be responsible for phasing in new technology and making sure that the new technology and the old could coexist. This approach is discussed in more detail in the section below describing alternative management techniques.

Accommodating Entry. How does the current system react when someone invents a new radio communications technology? What does it do when the use of a radio service turns out to be vastly different than originally predicted?

First, the odds are the system will do little to allocate spectrum to a new technology. Digital mobile radio provides a good example of this regulatory stiffness. The growth in the use of computers and the decrease in the costs of digital electronics combined to make the use of digital communications systems, such as are required for computer inquiry terminals in police cars, economically feasible. Yet such systems must operate today under technical rules developed earlier for voice signals which have been modified incrementally for data signaling. There is no indication that new rules which optimized to fit the special strengths and weaknesses of digital systems will be put into place.

Second, no good mechanism exists today for the early detection of changed spectrum needs. Rather, the political process detects shortages only after they have become severe.

Generally speaking, the reaction of the current system depends upon the extent of current uses in the bands best suited for the new application. In the relatively uncrowded microwave bands new applications and new technologies can be adopted relatively quickly. In the crowded VHF and UHF bands it would be extremely difficult to bring a new service or technology into being.

Efficiency. The absence of a yardstick makes it hard to judge the efficiency of the current system. For example, how much more should consumers spend on television sets in order to free up 60 MHz of spectrum for land-mobile or for additional broadcasting channels?

To an engineering observer the efficiency of spectrum use in this country seems mixed. Satellite systems and microwave systems appear to be quite efficient. Mobile communications systems seem moderately efficient. Broadcast spectrum usage, especially the UHF broadcast band, seems inefficient. The spectrum in the United States could probably support two to four times as many over-the-air television stations as it does today if we employed slightly more expensive, but spectrum-conserving, television set technology.

The FCC is aware that the current, nonmarket system often does not provide individual users of radio systems with sufficient incentives for efficiency. It therefore employs direct regulation to require use of more efficient technology. There are minimum loading standards in some land-mobile services, minimum modulation efficiency requirements for digital microwave, and minimum path length requirements in that part of the microwave spectrum best suited to long-haul applications.

Procedural Changes

The current regulatory system requires long periods of time to come to decisions. Years can go by from the time an inventor or entrepreneur requests the right to offer a new service until the request is either granted or denied. The system lacks systematic or economically based methods for making trade-offs among services. Spectrum is allocated to services and applications based upon the effectiveness of the representatives of various special interests in pleading their case at the FCC or on Capitol Hill. Once an allocation decision is made, the system is quite rigid—the decision is hard to change or modify. Procedural changes, within the FCC and between the FCC and other agencies, could simplify standard-setting, regulation, enforcement and efficiency.

Comparative Hearings. If one person applies for a radio license, the process is simple: the application is examined and granted if in accord with the rules, otherwise the application is denied. If two or more people apply for mutually exclusive licenses—where operation of one station would create unacceptable interference to the other—the FCC must choose one of the applicants and dismiss the rest.

Through most of its history the FCC has made its choices by a comparative hearing. The comparative hearing is much like a cable franchise proceeding or accepting bids from contractors. Following a lengthy process which includes hearings before an administrative law judge, the FCC chooses among the applicants. For example, all other things being equal, the FCC's process would favor an applicant with sound financial backing over one with weak financial backing.

While the comparative hearing has been justly maligned as cumbersome, time-consuming, and expensive, it does have virtues. It allows the FCC to weigh alternative services proposed by competing applicants. Thus, the FCC can favor the applicant who proposes to bring the first service to a small town over the applicant who proposes to bring the fifth service to a major city. This service comparison feature has been most important in broadcasting. The comparative hearing was a good tool to deal with the problems created by first-come, first-served licensing of AM radio stations.[19]

For many nonbroadcast services the comparative hearing is a difficult tool. There is no reasonable way to compare the service offered by two different business radio users—is pizza delivery more important than fried chicken delivery? There is no good way to decide which of five cellular applicants will do the best job. And, of course, many of the benefits of the comparative hearing are lost when the winner sells to another buyer.

Lottery. When applicants are as alike as peas in a pod, or when the uncertainty surrounding the possible uses of the license makes choosing difficult, one option is to draw straws or pick a name out of a hat. In 1981 Congress gave the FCC the authority to do just that, to use a system of "random selection" to choose among competing applicants.

The lottery process has worked well.[20] It eliminated most of the problems and costs of the comparative hearing and has expedited the availability of valuable new services to the public.

The lottery, however, has created problems of its own. For valuable licenses the number of applications increased dramatically, increasing administrative costs. This, of course, is exactly what has happened in the cellular service where some markets saw hundreds of applicants for the nonwireline frequencies.

Auctions. The easiest way to remedy the crush of speculative applications would be to require applicants to bid for the valuable rights received—to auction licenses.[21] Recent supporters of the auction concept have included presidents Carter and Reagan and FCC chairmen Fowler and Patrick.

In the past few years cellular radio systems and television stations have sold for far more than the value of their physical assets. In these and similar cases the "naked" license alone possesses considerable value. Naturally enough, when the FCC makes a license available for initial grant, there are often many applicants for that license among whom the FCC must then choose.

An auction is merely a fair and efficient way to establish the value of the license before the FCC grants it and thereby assure that the public retains the windfall benefits of awarding such a privilege. Auctions also reduce the FCC's costs by simplifying the choice process, and the applicants' costs by avoiding unnecessary license applications. The winning applicant will pay the auction price, but this is a transfer payment and does not represent resource consumption costs. If auctions are properly structured, they will reduce both the FCC's work load by removing the need to examine many technical applications in detail and will save our society even more by reducing applicants' expenditures on legal and consulting services.[22]

Under Chairman Mark Fowler, the FCC prepared legislation authorizing the FCC to use auctions for limited regions of the spectrum. Earlier auction proposals were criticized for being unable to take account of important issues such as media diversity and cross-ownership, minority ownership and participation, and integration of ownership and management. Such criticisms run only to the use of auctions to choose broadcast licensees. The FCC's proposed legislation avoided these problems by prohibiting auctions for mass media licenses.

Similarly, critics have raised concerns that public safety or amateur access to the spectrum would be restricted in an auction environment. While these concerns are overblown, the FCC's proposed legislation prohibited use of auctions in such radio services. This safeguard comes with little or no cost, since these radio services do not have the rush for licenses which would require comparative hearings or crowded lotteries. Another safeguard contained in the FCC's draft bill is the restriction of the auction process to the actual assignment of licenses, not the allocation of radio spectrum to services. Thus, two taxicab companies might have to compete in an auction for a license, but they would not be bidding against the deep pockets of the local cellular carriers for more spectrum.

Despite all these safeguards, the broad theoretical support based upon fairness and efficiency, the practical support of the administration,[23] the need for additional public revenues to balance the budget, and the earlier support of similar concepts by the Carter administration, the legislation did not pass. It was strongly opposed by the land-mobile industry—the industry most likely to see its future licenses handed out by auction. For that industry the legislation promised a substantial and concentrated loss, since auctions placed a cost on an otherwise free resource.

Substantive Reforms

In addition to reforms in the spectrum allocation process, the spectrum resource requires better general control and management. Possible reforms include:

Unifying Domestic Authority under the President. Spectrum management in the United States is split between the FCC, which manages spectrum for the civil economy and for state and local governments, and the NTIA, which manages spectrum for the federal government (mostly the Department of Defense and the Federal Aviation Administration). Trade-offs between civil and federal spectrum use are normally undertaken in informal negotiations between the FCC and NTIA. No single political official or agency is responsible for striking a proper balance between these conflicting needs. Unifying spectrum allocation authority under the president is one way to increase political accountability for efficient spectrum use.

Decreasing Block Allocations. The FCC has traditionally allocated spectrum in large blocks to various uses and classes of users—one block to broadcasting, another block to land-mobile, and so forth. These block allocations generally make sense. Similar spectrum uses can usually be packed more tightly into the spectrum than dissimilar ones. However, the FCC has created numerous classes of special users. For example, while common carrier and private microwave systems traditionally operated in different bands, separating them allowed the FCC to ensure that the telephone industry would not "gobble up" the microwave spectrum and deny a competitive alternative to users. The FCC protected against monopoly abuse at the expense of idle spectrum (regions where one microwave band is full, while capacity remains in the other band).

More recently, the FCC has begun to break down these band divisions based upon the economic status of the licensee and to restrict band divisions to those dictated by technological differences of use, leading to more economically efficient spectrum use.

Use Market Mechanisms in Spectrum Management. A key reform would be to allow (indeed, require) the FCC to use market mechanisms (auctions, fees, property rights schemes) as management tools. As mentioned earlier, this reform has been supported by the last two presidents and the last two chairmen of the FCC.

Nevertheless, substantial barriers exist to this reform of the spectrum management process. The most apparent barrier is created by the interests of those who currently obtain access to spectrum without paying for the scarcity value, and those lawyers and consultants who participate in the current system and whose skills might be rendered obsolete or unneeded under reform. But there are other barriers, less apparent but equally high.

Lack of understanding together with fear of the unknown creates a significant barrier to adoption of new regulatory approaches. A cure for this is time and education. An interesting example of the evolution of a participant's views comes when comparing the American Telephone & Telegraph's 1977 position on market mechanisms in spectrum to their 1986 position.

In 1977, AT&T filed comments on the House Subcommittee's staff Options Paper on the spectrum resource. It stated:

> The idea of using auction techniques to choose among alternative claimants for the spectrum resource is not new. The idea was re-

> viewed by the Panel on Spectrum Value of the National Academy of Engineering (NAE) on which the Bell System was represented. The NAE considered the plan unworkable due to technical, transition, political and social difficulties and concluded that it would be more appropriate to strengthen the means of determining and assessing the social and economic values associated with the spectrum management process.[24]

Almost a decade later the AT&T had changed:

> . . . an auction would be fast and efficient, and suitable for an individual or an entity that is prepared to make an economic commitment to use it. An auction would discourage those who merely wish to throw their hat in the ring and hope they will walk away with a valuable prize.
>
> We, therefore, feel auctions should be a tool the commission can use as a alternative to comparative hearings and lotteries. We do not feel, however, that auctions should be used to replace existing processes that are working well today . . . one of these processes is prior frequency coordination.[25]

The current manager responsible for radio licensing took a fresh look at auctions, in light of the lottery experience, and saw them as a reasonable alternative.

There is a third barrier to alternate management approaches. Many prefer that spectrum use, especially broadcasting, be regulated in the public interest. Market-based mechanisms for assigning licenses or allocating spectrum undermine or destroy the public interest rationale behind much broadcast regulation. Those who have grown comfortable with traditional broadcast regulation can be expected to support it. One notable source of such support lies in Congress. Since moving to auctions undermines traditional broadcast regulation, it also undermines the influence key politicians have over broadcast policy and the actions of broadcasters. It is natural that such individuals might oppose changes which would weaken or remove their ability to influence events. Note that those whose power would be weakened the most are those whose approval of reforms is most important.

The outlook for explicit congressional authorization for the use of market-based spectrum management techniques is therefore not bright. The benefits of such reform are diffuse, the losses concentrated. More promising, instead, are the adoption of management techniques, such as technical flexibility and flexible licensing, which can be implemented under the current statute. The greatest opportunity to improve the value obtained from the spectrum resource comes from the current interest over advanced and high-definition television. Accommodating all current television stations in a move to ATV may require a radical re-engineering of the UHF spectrum. Such a step would provide an opportunity to free spectrum for land-mobile radio, create new aural or data broadcast services as well as meet broadcasters' needs for technological evolution. This opportunity should not be squandered.

POLITICS AND PROCESS

Policy Process
Congress
Executive Branch
Public Interest

The Communications Policy Process

Howard J. Symons

For most of the forty years following the passage of the Communications Act in 1934, the most visible and significant questions of communications policy were largely questions of broadcasting policy.[1] In those years the docket of the Federal Communications Commission (FCC) was dominated by matters such as the process for awarding (and renewing) station licenses; the development of rules to restrain the power of the broadcasting "chains" or networks; the imposition of restrictions on the ownership and sale of broadcasting properties; the allocation of spectrum for the new medium of television; and the enforcement of the fairness doctrine and the political broadcasting rules. Questions of telecommunications (that is, telephone or telegraph) policy, when they emerged, were generally resolved through negotiations with American Telephone & Telegraph (AT&T) or Western Union.

While commission policy in all of these matters was appealed to the courts (and in more than a few instances, to the U.S. Supreme Court) and was occasionally subject to review and revision by Congress, the development of communications policy after 1934 was generally left to the regulators and the industry. Arcane communications issues were only dimly (if at all) perceived by the public, and there was little political gain to be had from involvement with them, with one exception: as the power and importance of the electronic media in the political realm increased, members of Congress became increasingly attentive to agency decisions affecting broadcasters in their districts.

This attentiveness to broadcasting was manifested in ongoing scrutiny of such issues as license renewals, children's programming, and the allegedly violent content of many television shows. While these topics were frequently the subject of hearings and informal pressure on the commission, no significant legislative action was taken to address them directly.[2] When Congress did pass laws affecting broadcasting, it was with the self-interested motive of guaranteeing "reasonable access" at the "lowest unit rate" for candidates for federal office. When the commission proposed to loosen the regulatory restrictions on cable television in 1971, for instance, it was the White House Office of Telecommunications Policy that brokered the "consensus agreement" among the affected industries that permitted a modified version of the new cable rules to go forward.[3] The technological developments that have transformed the communications industry during the past twenty years have also transformed the process by which communications policy is shaped. The dramatic growth in the industry has sharply increased the magnitude of the interests at stake in the debates over communications policy. No longer is the formation of communications policy the preserve of the FCC.

The industries that make up the communications business today —including the mass media and telephone industries and the firms that provide programming, data services, and equipment—collectively employ more than two million people and generate almost $300 billion in annual revenues.[4] Because almost any policy proposal that could affect these businesses will have a significant impact (in terms of jobs and dollars), any serious policy proposal will be vigorously debated by the industries that stand to gain or to lose by the proposal.

On one or both sides of these debates can be found some of the largest and most prominent corporate interests in the United States. The established telephone industry (with the support of their unions) tried to block the entry of competitors in the long distance business in the mid-1970s. By 1988 these competitors were sufficiently well-established to mount a drive to block a proposal to relax the regulation of the established industry's profits. The broadcasters attempted to stymie cable television in the 1960s and 1970s, and now cable itself is charged with thwarting the development of technology that might compete with cable in the delivery of video programming services. The networks have squared off against the motion picture industry (over whether the networks could own the syndication rights to the programming they air), and the motion picture industry has taken on the cable operators (characterizing cable as an "unregulated monopoly").

To be sure, these issues have a fundamental social importance beyond the particular interests that stand to gain or lose from a particular regulatory decision or statutory enactment. Indeed, debates over most of the communications policy questions of the past decade have included a handful of representatives of public interest groups who participated out of a recognition of the larger issues at stake in these contests. It has been strongly argued, for instance, that the rules adopted to govern control of the mass media (by limiting multiple ownership of broadcasting stations or encouraging minority ownership) can have a significant impact on the type and variety of information sources available to the public. Likewise, there is general agreement that the nationwide availability of high-quality telecommunications services at reasonable rates is increasingly important in an information-based economy.

Prompted by a recognition of these fundamental issues—and encouraged by those with a direct interest in the outcomes of the increasingly high-stakes debates over communications policy—members of Congress and administration officials periodically have turned their attention to telecommunications. Administration inquiries led to the antitrust suits of 1949 and 1974. The most recent spate of congressional concern began in 1975 in the wake of the filing of the 1974 suit. There were other efforts by the Executive Branch over the years to leave a mark on communications policy. President Johnson's Task Force on Communications Policy (the "Rostow Commission") undertook a comprehensive study of communications policy in 1967 and 1968, and a number of the recommendations contained in the report of the task force (including the "open skies" policy of encouraging a competitive domestic satellite system) were adopted in subsequent years. Other of its recommendations—such as preserving the public switched telephone network as a monopoly—fell victim to technological developments and judicial decisions that blurred the distinction between private and public networks. The White House Office of Telecommunications Policy, established in 1970, also developed proposals for reforming communications policy. The office's policy initiatives were overshadowed, however, by its overtly political role as a persistent critic of public television and the network news organizations.

For the most part the FCC and the Antitrust Division of the Department of Justice, abetted by the courts, have managed to control the policy agenda and its outcomes. The White House and Congress have acted too slowly, and too much in response to the initiatives of the agencies, to influence the overall development of policy. While this behavior could be interpreted as assent to these policies, it may be more accurate to say that events have moved too quickly, and underlying politics have been too conflictual, for politically sensitive officials to take charge. The result has been policy constructed by technocratic experts, bureaucrats, and judges that is largely beyond the control of the general public and elected representatives.

While the commission rejected suggestions to impose common carrier obligations on cable television in 1966, it did impose them in 1972. Nonetheless, at the urging of the broadcasters, the agency had significantly restricted a cable system's ability to carry television signals from distant markets. Cable service was effectively limited to the retransmission of local broadcast signals and the growth of a medium of such restricted usefulness was slow. In 1972, after direct consultation with relevant congressional committees and the White House, the FCC modified its rules to permit the carriage of "distant signals" on cable systems. The courts assisted in this "liberation" of cable technology by voiding parallel restrictions on cable's carriage of pay services offering sports and movies. With the advent of satellite technology to deliver programming cheaply, cable was poised for explosive growth.

The commission, with another assist from the courts, had likewise opened the door to competition in the provision of telecommunications services. Microwave radio had been in use since the early 1960s by a handful of large business that needed their own networks to carry communications between plants or between headquarters and branch offices. In 1970 the commission authorized "specialized common carriers" to build microwave radio facilities and make them available to third parties under tariff for communications between preselected locations.

AT&T opposed even this limited competitive invasion of its turf. Its position was supported by state regulators who feared that they would lose their control over intrastate communications in a competitive market. They also expressed concern that AT&T would not be able to sustain its long-standing subsidy of local telephone service. Notwithstanding these arguments, the commission opted for competition and the courts upheld the commission's choice. Subsequent commission decisions established the right of the competitive carriers to interconnect with local telephone networks. This, too, was upheld by the courts.

Eventually, MCI followed the economic and technical logic of its network for private lines and began to offer ordinary long-distance service.[5] Only then did the agency hold that the competitive provision of long-distance service had gone too far. However, the commission's attempt to limit MCI to private line service was twice rejected by the courts. Long-distance competition had become established communications policy.

Of course, the commission's establishment of the framework of a competitive communications policy did not resolve all of the issues. Rather, it led to new questions of implementation and a debate over the consequences of the agency's policy choices. These questions and that debate came to occupy the members of Congress and others who joined the policy process in the latter 1970s.

As the stakes and the roster of participants have grown, the communications policy process has become a tangle of conflicting interests and institutions. (With a few exceptions, notably questions that affected the price of communications services, the general public has been largely absent from this process.) Not surprisingly, the resulting policies are not necessarily the product of careful coordination and often lack coherence. Perhaps most notably, Congress has failed in several efforts to revise the Communications Act to reflect the technological and regulatory changes of the past twenty years. Indeed, the single most significant communications policy decision since 1934—the divestiture of AT&T—occurred largely outside the traditional communications policy framework.

Without statutory guidance it has generally been left to the FCC (sometimes dragged reluctantly by the courts or under pressure from powerful senators or representatives) to regulate the growth of competition and set the terms of the debate over policy. Nonetheless, the current process for making communications policy imposes certain limitations on the FCC. Notwithstanding its failure to rewrite the Communications Act, for instance, Congress has exercised its oversight power as well as its legislative authority in an increasingly wide range of mass media and telecommunications issues. While the involvement of Congress in the policy process has been criticized as "meddling" or "micromanaging," in fact it has helped democratize and demystify the debates over communications policy choices.

Congressional involvement in the policy process ensures that the interests of constituencies such as rural and elderly Americans, who are politically potent but lack a sufficient stake in the outcome to participate in costly and arduous regulatory proceedings, will be included at the table. These interests may not always carry the day on such issues as cost allocation or multiple ownership, but the presence of advocates for their point of view has had the effect of tempering theoretically "correct" proposals that unnecessarily sacrifice distributional and social equity. Other regulatory proposals, seemingly based more on an ideological agenda than on reasoned rulemaking, have been restrained by the courts.[6] In addition, communications policy has been shaped by forces beyond the federal government, from state regulators to the telecommunications entities of foreign nations. What were once thought of as strictly questions of national policy—the deregulation of customer telephone equipment, for instance, or the decision to open the long-distance market to competition—are now recognized to have ramifications ranging from increased local telephone rates to imbalances in the U.S. balance of payments.

While the fragmentation of the process in recent years may have frustrated the emergence of a neat and orderly communications policy, it has also prevented any single industry or government entity from dominating management and dissemination of information in this country. This result, while perhaps unintended, suggests that a fragmented policy process is more appropriate to the goal of encouraging "diverse and antagonistic sources of information" than a process characterized by a strong centralized authority. Like the increased involvement of elected officials in the process, fragmentation serves to democratize the process and the policy at the same time. With multiple policy forums and dozens of active interest groups it becomes difficult for any single forum or interest to establish rules that would assure its particular hegemony. Consensus, at least before one decisionmaking body, is a necessary prerequisite to any change in the rules.

The result of this process is a diversity of information media that more closely approaches the "marketplace of ideas" than would be the case if the rules were set by a single dominant institution. Efforts to "unify" the process by vesting all authority over communications policy in a communications czar run the risk of substituting uniformity for diversity as a matter of policy as well. This is not a price worth paying in a democracy that depends upon the freest flow of information from the greatest variety of sources.

While centralization of responsibility for establishing all communications policy could lead to an unhealthy concentration of control over communications, it is nonetheless necessary to impose some order on an increasingly chaotic process. That challenge can be met in part by requiring the various decisionmaking bodies with responsibility for communications policy to better coordinate their activities. In addition, the president must lend his prestige and power to the articulation of a coherent communications policy. By virtue of his office the president can set the terms of the debate and frame the issues to which all of the other participants in the process would have to respond. The breadth of his responsibilities also puts him in the best position to take into account such disparate considerations as trade, antitrust, and national security. No other participant could speak to those issues with the kind of authority accorded the chief executive.

Of course, even improved coordination and greater participation by the president will not yield an orderly process readily reduced to flow charts and decision trees. The billions of dollars at stake in the debates over communications issues (and the fact that these debates, however intense the participants, have not engaged the general public) foretell a process that will probably remain as contentious as it is today. Nonetheless, this "disorder" ensures a responsiveness to public needs and diversity that should be the goals of our communications policy.

Cat and Mouse: Congress and the FCC

The current communications policy process is the product of a complex interaction among the legislative, judicial and executive branches, as well as interested and disinterested members of the public. In the first instance the commission remains the focus of communications policy. The Communications Act provides the agency with a broad charter to implement and enforce the general prescriptions contained within the statute. Increasingly, however, the commission must look over its shoulder at Congress. The following three cases help us to understand this complex relationship.

Telecommunications: Legislative Stalemate

AT&T was dissatisfied with the FCC's decisions sanctioning competition in the long-distance market and with the agency's concurrent moves to preempt state regulatory commissions and deregulate the provision of telephone equipment; it was also concerned about the antitrust suit launched by the government against it in 1974. The company therefore sought relief from Congress.

AT&T's idea of telecommunications policy was contained in the Consumer Communications Reform Act (quickly nicknamed the "Bell bill") introduced in 1976. The bill reestablished AT&T's monopoly over long-distance telephone service, immunized the company against antitrust lawsuits, and deprived the commission of jurisdiction over telephone equipment—a provision strongly supported by the state regulators. With the urging of the established telephone industry, almost 200 members of Congress cosponsored the bill by the time of adjournment, reflecting a willingness to accede to the request of powerful constituents to support a bill that promised to preserve affordable telephone service.

The Bell bill never even came to a vote. House Communications Subcommittee Chairman Lionel Van Deerlin, a San Diego Democrat, understood the gravity of the issues raised by the legislation. Rather than hold hearings on the bill and schedule it for a vote, he held hearings on the general subject of competition in telecommunications. Following the hearings Van Deerlin announced that he would conduct a review of all communications policy aimed at a "basement to attic" rewrite of the entire Communications Act.

The Bell bill was also a catalyst for the companies that saw opportunities in a competitive telecommunications marketplace. MCI and other aspiring long-distance competitors formed an association to fight the bill, as did importers and manufacturers of telephone equipment. They were joined in their opposition by IBM, by corporate communications users seeking alternatives to AT&T, and by representatives of public interest groups that believed that competition would serve consumers better than monopoly. When the bill died, these groups turned their attention to the rewriting of the Communications Act. Their goal was to convince Congress to validate the competitive policies begun by the FCC. The debate had been joined.

The Bell bill was dead, but legislative efforts to articulate communications policy had been born. Subcommittee members who had given little thought to communications policy beyond political broadcasting rules found themselves immersed in a substantive project that would take increasing amounts of their time. Notwithstanding a seeming lack of public interest in the project, the desire to play an important role in shaping a critical industry gave members an incentive to become involved.[7]

A complete rewriting of the Communications Act proved too unwieldy; it was impossible to balance the dozens of interests that would be affected by it. By 1979 the subcommittee had focused its efforts on rewriting the provisions of the act governing telecommunications. Unlike the debate three years earlier, however, the issue was not about the possibility of competition. Events had already decided that question. Decisions by the FCC—adopting technical specifications for using telephone equipment not manufactured by the telephone company, for instance—and the courts—upholding MCI's ability to offer universal, "switched" long-distance service—had further established competition as the touchstone of telecommunications policy. Technology had made competition possible, and now competition was seen as the most effective spur to innovation and the widest distribution of services at the lowest cost. In addition, AT&T's efforts to restrain competition had created a political backlash against the advocates of monopoly.

The new congressional debate was now over the best means to achieve a competitive marketplace. The goal was to set the ground rules for fair competition. In a message to Congress supporting the enactment of telecommunications legislation, President Carter summarized this accidental consensus: "Competition is a fact of life in this industry. It cannot and should not be rolled back, and we should not allow it to continue developing haphazardly. That approach means delay and uncertainty. . . . Competition should be encouraged and fully competitive markets deregulated. [Legislation] should set a policy of encouraging competition wherever it is workable and of eliminating needless regulation."[8]

AT&T reluctantly accepted this turn of events and tried to use it to its own advantage. The rewrite appeared to be a way out of its pending antitrust case. Congress, not the court, would set new ground rules for the industry. The company argued that if competition were to be the law of the land, then AT&T should be allowed to compete in every sector of the communications marketplace without unnecessary restraints. That meant deregulation of services found to be competitive and entry into the potentially lucrative fields of data processing and other "enhanced services" that had been closed to the company under the terms of the 1956 consent decree.

The group of companies and public interest representatives that had challenged the Bell bill opposed AT&T's proposals, arguing that inadequate checks on AT&T's market power, and its control over the local telephone networks, would enable the company to dominate any communications business it entered and stressing that this debate was not about abstract economic questions. The rates for basic telephone service would rise, the opposition said, unless AT&T were effectively restrained from subsidizing its competitive ventures with revenues from its monopoly services. Given the possibility that it might be held responsible for higher telephone rates, Congress began to pay greater attention to telecommunications policy.

Congress was unable to find a consensus on the best way to introduce competition into the telecommunications industry. The House Commerce Committee favored legislation establishing a framework to deregulate the industry; the House Judiciary Committee, concerned about the impact of such a bill on the government's antitrust suit against AT&T, reported the bill unfavorably. Congress adjourned before taking any action.

1981 and 1982 saw further attempts to rewrite the telecommunications provisions of the Communications Act to take account of industry developments since 1970. One version of such legislation passed the Senate in late 1981. Three months later, AT&T agreed to divest its local operating companies to settle the government's antitrust case against it. The House version of the rewrite, which also sought to modify some aspects of the proposed antitrust settlement, again pitted AT&T (opposing the bill) against its competitors and potential competitors, including the newspaper publishers association, which sought to bar AT&T from electronic publishing. Again, there was no consensus. The House bill failed to clear the Commerce Committee, and the rewrite effort died.

Without direction from Congress the industry has been deregulated by the commission and restructured under the aegis of the divestiture court. The commission's *Competitive Carrier Rulemaking*, begun in 1980, established a relaxed regulatory scheme for telephone companies without market power, reserving the full panoply of regulation for so-called dominant carriers; its *Second Computer Inquiry* (1980) permitted AT&T to provide "enhanced" data services, but only through an arm's-length subsidiary that would own none of its own transmission lines. The "separate subsidiary" requirement was intended to prevent AT&T from thwarting the provision of enhanced services by competitors who needed access to telephone network facilities to reach their customers.[9]

For its part the divestiture court significantly modified the settlement initially proposed by the Department of Justice, permitting the divested local telephone companies to sell telephone equipment and market the Yellow Pages, for instance, and prohibiting AT&T and the divested companies from engaging in electronic publishing. In 1982 the court approved the modified settlement. Since then, the court has taken up disputes arising out of the settlement's restrictions on business activities of the divested Bell companies. Under the settlement the companies were barred from providing long-distance and enhanced services and from manufacturing equipment used in the provision of telecommunications services. The court has consistently refused requests to waive these "core" restrictions and in 1987 denied a Department of Justice request to remove restrictions on long distance and manufacturing. The court, however, substantially modified the bar on the provision of enhanced services. The decree was modified to permit the divested companies to provide an electronic "gateway" through which subscribers could access data bases created and maintained by third parties. The companies would continue to be barred from providing data bases that they owned or controlled. Through its treatment of waiver requests and its rulings on the implementation of other aspects of the antitrust settlement, the court has profoundly affected the shape of the telecommunications industry.

Congress's inability to act has created a policy vacuum filled by unelected officials. In addition, the absence of legislation has led inevitably to tensions between court and commission and unresolved contradictions in their policies. The commission, interpreting the Communications Act, has established a framework under which Bell companies may provide enhanced services and has suggested that the public interest would be served by their entry into this field. The court, charged with enforcing the antitrust laws, continues to bar Bell companies from making these services available directly, holding that to do so would pose an unacceptable risk to competition.

The Reagan administration has sided with the commission in this dispute, but its recommendations have no binding force.[10] The administration proposed legislation to shift authority over the antitrust settlement from the court to the regulatory agency, but that bill generated a firestorm of opposition (including from AT&T and the cable and newspaper industries); hearings were held, but no vote was ever taken.

Legislation to lift Bell company business restrictions has also been introduced in each of the last two sessions of Congress, but no committee has taken these controversial bills to a vote. Though there are members of Congress who oppose lifting the restrictions, these members have not introduced bills to codify the limitations. For now the policy "process" concerning continued business restrictions combines judicial action and legislative inaction.

While the effort to rewrite the Communications Act failed—a victim of the apparent inability to bring consensus out of powerful conflicting interests—the process established Congress as a significant participant in formulating almost every aspect of communications policy. Since 1982 there have been no grand attempts to rewrite the Communications Act, and most communications policy proposals are initiated by the FCC rather than Congress. Nonetheless, House and Senate committees remain involved in policy details.

One post-rewrite effort by Congress is particularly noteworthy. It arose in response to an FCC plan to reallocate several billion dollars of costs associated with the local telephone facilities (such as the line between a central office and a subscriber's home or office) used to provide both local and long-distance service. Historically, local telephone companies collected a significant share of these costs from long-distance companies. The long-distance companies, in turn, passed the costs through to their customers. The FCC found that this cost recovery system could not be sustained in a competitive market, in which a firm must be able to set prices at cost. A firm that set prices to recover more than its own costs would face a significant disadvantage in the marketplace.

In 1983 the commission found that contributions to the maintenance of the local network by long distance companies and their customers amounted to a subsidy and should not be treated as a cost of providing long-distance service. Such a cost was more properly allocated to the local subscriber, at whose request the local telephone company incurred the burden of installing the telephone line. The FCC adopted rules providing for collection of these costs through a monthly access charge on subscribers that, one commission official conceded, could raise monthly telephone charges by as much as $7.00 or $8.00.[11]

Congress reacted sharply. Legislation to block or delay access charges was introduced in both the House and the Senate, and a bill to prevent the imposition of such charges was passed by the House in late 1983. Rather than risk Senate passage of a similar measure, the commission agreed to limit the monthly charges. Even then, the Senate bill failed by only a handful of votes.

Several factors made it possible for such legislation to come so close to enactment. The commission's access charge plan coincided with public confusion over divestiture and with the announcement of massive local rate increases across the country. In significant numbers constituents wrote to their senators and representatives urging them to "do something." For the first (and, so far, the only) time a question of communications policy took on a larger political significance.

While the access charge plan did not directly relate to divestiture or local rate increases, it was a potential rate increase that Congress could control. Democrats in the House capitalized on the issue to illustrate the unfairness of Reagan administration economic policies. Access charges, they said, amounted to massive income redistribution from the average consumer to big business: long distance companies and their largest customers would reap the benefits, while consumers would pay the costs. After the access charge experience Congress was more skeptical of telecommunications proposals that appeared unnecessarily to sacrifice distributional and social equity for supposed economic efficiencies. The current dispute over the commission's proposal to substitute a scheme of price caps for the existing system of rate-of-return regulation is the spiritual successor to the access charge episode.

Congressional involvement rarely means the enactment of legislation. Experience has shown just how difficult it is to garner the support necessary to pass a law. Out of necessity Congress has attempted to cajole the commission through oversight and threats of legislation.

Legislative desire to maintain an active role in communications policy has been exploited by industry groups and public interest representatives who have turned to Congress to influence the outcome of particular FCC decisions. Congress has thus become increasingly involved in arcane details of communications policy. Communications from Capitol Hill to the commission have covered matters ranging from the tariff process and media ownership policy to the licensing of rural cellular systems and the provision of mobile communications using satellites.

Critics of "micromanagement" by Congress argue that the legislative role is to establish the policy framework, leaving the details to the regulatory agency. Indeed, in many respects Congress is ill-equipped to deal with matters of detail. Unlike commission staff, Congressional staff may lack the training necessary to understand fully the issues being considered. Congress only gets involved at the behest of politically powerful interests, it is argued, frustrating the development of sound and coherent policy by the experts.

Such an argument unnecessarily circumscribes the legitimate role of Congress in the policy process. As the unsuccessful six-year quest for the "rewrite" illustrates, the clash of interests may prevent Congress from expressing itself in general principles incorporated into statutes. Nonetheless, the legislature can and should exercise its responsibility to oversee the operations of the agency through the introduction of bills, the interrogation of the agency at hearings, and ongoing informal communications with the agency. Unable to enact legislation, Congress has used those tools to establish its policy priorities quite clearly.

By 1980, for instance, there was little serious argument on Capitol Hill with the general principle that open market competition could deliver the widest range of communications services and equipment to the public at the most reasonable price. When the debate turned from matters of industry structure to questions of pricing, congressional committees made it clear that the interests of rural and elderly subscribers had to be considered. Whatever the theoretical appeal of the economics underlying subscriber line charges, it appeared to a majority of the whole House that the imposition of those charges would have provided a windfall to business subscribers and certain telephone companies at the expense of residential consumers. This view would otherwise have received little consideration by the commission. The view was no less valid, and no less important, simply because it was not expressed in an enacted bill.

Cable: Validating a Consensus

The enactment of the 1984 Cable Communications Policy Act illustrates the converse of the stalemate among interest groups. The Cable Act was possible only because protagonists in the dispute over cable franchising reached a consensus that was codified by Congress with few modifications.

While the commission had largely repealed its cable regulations by the early 1980s, local governments still insisted that a cable operator obtain a local franchise for the right to use public rights-of-way to string its wires. The franchise was often conditioned on the cable operator's agreement to provide particular services, construct elaborate facilities and, in some instances, even to construct local libraries and recreational facilities. The franchising process had become unsavory, with cable companies making investments available to prominent local citizens at rates far below market value in the hope that the prominent citizens would give them an advantage with the local franchising authority.[12]

The commission could not void the local franchising process, though there have been several efforts in court to show that the process violated the free speech rights of cable operators.[13] Congress was reluctant to referee a fight between the cable industry and local elected officials who awarded cable franchises. Rather than impose a solution, members of the House directed the cable industry and local government representatives to work out the framework of an agreement. Despite considerable disagreements within the negotiating groups, that agreement became the basis of the 1984 legislation. Congress might have abandoned its legislative effort had industry and municipal representatives not forged ahead together.

Ultimately, both sides saw advantages to a comprehensive law. For the cities, the legislation confirmed their authority to franchise cable systems and provided protection against the ongoing court challenges to that authority.[14] For the cable industry, the legislation confirmed federal authority over cable and offered the promise of rate deregulation in all but the most rural areas, uniform national standards for franchising, and an orderly franchise renewal process that was intended to protect operators against "unfair denials of renewal."[15] The 1984 Cable Act is the closest that Congress has come to restructuring the Communications Act in more than twenty years.

The process that produced the enactment is in many respects the mirror image of the unsuccessful effort to rewrite the telecommunications title of the Communications Act. In the rewrite attempts legislative consensus among the competing interests proved impossible, and Congress itself was unable or unwilling to impose a solution. In the case of cable legislation was possible because the cable industry and municipal representatives agreed about the specific elements of a bill. Doubtless there will be other instances (the reimposition of the "must-carry" rules appears to be a likely possibility) where the affected parties will be able to reach a consensus that will form the core of a legislated solution.

Fairness Doctrine: FCC and Congress in Conflict

The fairness doctrine requires broadcast licensees to present discussions of conflicting views on issues of public importance. It has been a part of broadcast regulation almost from the time such regulation was first instituted, and the obligation to offer reasonable opportunity for conflicting views to be aired on significant issues was generally regarded as inherent in a broadcaster's role as a public trustee of the airwaves.

The fairness doctrine has been of particular interest to Congress. Increasingly dependent upon media coverage, members of Congress are sensitive to their own prospective problems if news coverage is not balanced. Intuitively, many believe that anything undermining the fairness doctrine calls into question the equal time requirement, the right of access to the air during a political campaign, and the right to respond to an on-air attack or editorial.

Congressional support for the fairness doctrine was made manifest in 1959, when the equal time requirement was amended to exempt certain news events and appearances on news programs. That amendment, did not "reliev[e] broadcasters . . . from the obligation imposed under this [Communications] Act to . . . afford reasonable opportunity for the discussion of conflicting views on issues of public importance."[16] Ten years later, the Supreme Court upheld the fairness doctrine against constitutional challenges brought by the broadcast industry. That decision has not been overturned.

In 1981, newly armed with a deregulatory philosophy, the FCC asked Congress to repeal the doctrine on the grounds that it allowed government to interfere with press freedom. Congress declined. In 1984 the commission conducted an inquiry into the fairness doctrine, concluding that the diversity of information sources now available rendered the fairness doctrine unnecessary. It also held that the doctrine chills speech and intrudes on the journalistic discretion to which broadcasters are entitled. Because it was unable to determine whether Congress had codified the doctrine in 1959, the commission did not act to repeal it.

In 1986 a federal appeals court held that the fairness doctrine was merely commission policy and not codified in the Communications Act. The commission therefore chose in 1987 to repeal the fairness doctrine, notwithstanding contrary congressional legislation to codify it. The FCC argued that it was not bound by the legislation, which had been vetoed by the president, and that it was bound to repeal a rule found to be unconstitutional and inconsistent with the public interest. Concurrent with its repeal, the commission sent to Congress a report (required in legislation passed several months earlier) suggesting alternative ways to enforce the fairness doctrine.

The manner and circumstances of repeal plunged relations between the commission and the House and Senate Commerce Committees to an all-time low. Repeal of the doctrine on the same day that the report on alternatives was transmitted to Congress appeared to mock Congress's request for the report. More fundamentally, the FCC's action repudiated the will of Congress as expressed in its fairness doctrine codification. A regulatory agency, they argued, was a creature of Congress and congressional interpretation of agency responsibilities, unambiguously expressed, should dominate the process.

The commission underestimated responses to its repeal of the fairness doctrine. To punish broadcasters for opposing the fairness doctrine bill, Committee leaders shelved legislation sought by the broadcasters to simplify the license renewal process and reestablish "must-carry" rules guaranteeing broadcasters a place on the local cable system. Animosity toward the commission has spilled over into aspects of communications policy unrelated to broadcasting. The intensity of congressional opposition to the commission's "price cap" proposal, for instance, has been attributed to the distrust fostered by the fairness doctrine incident.[17]

To the extent that the commission is unwilling to consider those ramifications, it invites exaggerated participation by Congress in the day-to-day business of regulating the communications industry, an unnecessary complication for the policy process. Without serious consultation from the FCC, Congress will remain intimately, and seemingly autonomously, involved in the details of communications policy.

The Role of the States

Given the integrated nature of the telephone network—poles, wires, and switches are used for both intrastate and interstate communications—state jurisdiction of intrastate communications today appears to confer upon them a significant role in shaping national telecommunications policy. Such primacy is of recent vintage. States asserted their authority in the 1970s in an attempt to block or retard FCC efforts to open the telecommunications industry to competition. The states would not allow customers to use telephones that were not purchased from the telephone company, and they attempted to block the entry of carriers seeking to provide long-distance service in competition with AT&T. As argued by the established telephone industry, they believed that local rates could no longer be subsidized by the profits from the lease of equipment or the sale of long-distance service were those sectors subject to competitive pressures. In both instances the states failed to stem the tide of technology and history and thus found themselves largely frustrated in their attempts to exercise authority to prevent procompetitive federal telecommunications policy.

The FCC was able to prevail over the states by convincing the courts to adopt an expansive reading of FCC jurisdiction over interstate communications. The courts held that FCC authority would extend over local services and facilities were it not feasible to separate the interstate component of those services or facilities from the intrastate component. To hold otherwise, the courts reasoned, would enable the states to use their limited authority over intrastate communications to thwart federal policy regarding the interstate component of the industries. The courts upheld FCC preemption of state regulation of home telephones—the most "local" element of the telephone network—in favor of a national policy to promote competition in interstate communications.

For the states this reasoning could have been fatal. Just as customers used a single telephone for all of their calls, long-distance telephone companies used a single point of interconnection with the local exchange to deliver both intrastate and interstate transmissions. Indeed, almost all of the telephone network is used for both interstate and intrastate services. If federal regulators could preempt states wherever it was difficult to separate interstate from intrastate components, the scope of federal authority appeared infinite.

Consistent victories in court emboldened the FCC to expand its authority further at the expense of the states. Only a 1986 Supreme Court ruling restored equilibrium to the process. That ruling reaffirmed the dual regulatory structure established under the Communications Act, acknowledging that "jurisdictional tensions may arise as a result of the fact that interstate and intrastate service are provided by a single integrated system."[18] The FCC could not justify preemptive authority simply by finding that a federally adopted communications policy would be frustrated if an inconsistent state policy were left standing. Where it was possible to separate equipment into interstate and intrastate portions or accounts, the court said, the states were entitled to regulate the intrastate portion according to their own lights.

Chastened by the Court, the FCC has been somewhat more selective in choosing cases for preemption; the states have been emboldened by this recent ratification of their authority. Rather than exercise that authority to defeat competition, however, a new generation of state regulators has revised decades-old regulatory structures to accommodate developments their predecessors once fought. Even before the *Louisiana* decision, state regulators had begun to experiment with alternatives to rate-of-return regulation. In some states basic local rates were determined by a social contract between regulators and telephone companies. In others regulators tailored regulation to the degree of market power exercised by the carriers operating in their states. Ironically, the FCC has cited these experiments with approval to justify its own alternatives to rate-of-return regulation.

Nonetheless, the line between federal and state jurisdiction will remain blurred as long as interstate and intrastate services are provided over the same facilities. In the absence of a concerted effort by regulators, or a statutory amendment expanding the reach of the FCC, conflicts are inevitable. At the heart of the FCC's *Third Computer Inquiry*, for instance, are regulations directing telephone companies to make the component parts of their local networks available to information service providers seeking access to those networks. Are these regulations a necessary component of the federal policy to encourage competition in the provision of enhanced services, as the FCC argues, or an intrusion into the state regulation of local networks? Doubtless the courts will have their say on this question, and at least one public utility commission has begun its own proceeding to determine the terms and conditions under which the component parts of the network in its state will be made available.[19] Ultimately, however, the public would be better served by policy made cooperatively by state and federal regulators.

International Considerations

Domestic telecommunications policy choices have international components and effects. The introduction of competition in telecommunications markets, in response to technological developments and the divestiture of AT&T, had the effect of reducing barriers to the importation and sale of foreign made equipment in the United States. Foreign markets for American goods did not develop as quickly. As a result, in the years between 1980 and 1986 the $1 billion U.S. trade surplus in telecommunications equipment became a $2 billion trade deficit.[20]

Despite general recognition of this problem, there has been no institutional coordination to confront it. Congress has directed the president to enter into negotiations with nations that are found to deny open access to U.S. telecommunications products and services, but new domestic telecommunications policies can still exacerbate trade problems. Absent an amendment to the Communications Act, for instance, the FCC is not authorized to take action on trade matters. As an independent agency, it is not required to defer to the U.S. Trade Representative. Likewise, the court sitting in review of divestiture is charged with enforcing the antitrust laws, not with making trade policy. Nonetheless, court decisions limiting the activities of the Bell operating companies inevitably affect the U.S. role in international telecommunications markets.

Communications, trade and antitrust policies will again converge in the case of high definition television. American industry is far behind Japanese and European technology, prompting a domestic debate about barriers to the introduction of high definition television. To some manufacturers the advent of high definition television is an opportunity to reenter the consumer electronics industry. Supported by a growing number of government officials, they argue that foreign technology should be barred and antitrust laws waived to permit joint research. Broadcasters support these calls for delay, fearing that cable systems and satellite delivery will make high definition available to consumers before they are prepared to convert their facilities to the new technology. Cable operators and video programming suppliers would clearly prefer to introduce the new technology now. The FCC is proceeding cautiously, cognizant that its decision on standards will have ramifications far beyond telecommunications policy.

The FCC's tentative decision on high definition television reflects its awareness of what is at stake. The agency has made clear its belief that high definition television "presents significant challenge to the broadcast industry and its competitors [and] to the American electronics and manufacturing industries," and it has set out a goal of "design[ing] and implement[ing] a framework . . . that will promote efficient realization and wide dissemination of the benefits of this new technology."[21] Nonetheless, the commission declined to propose specific technical standards for high definition television, preferring a flexible approach that relied primarily upon private standards-setting bodies to take the lead.[22] There is also an explicit recognition of the trade ramifications of its technical decisions. By tentatively adopting a plan under which high definition transmission must use 6 megahertz or less of bandwidth, for instance, the commission acknowledged that it had ruled out the Japanese system as "a candidate for authorization."[23]

Congress is unlikely to legislate on the issue. The legislature is not competent to decide on a technical standard for high definition television and would probably not be able to ban high definition television hardware from abroad. It has nonetheless set itself up as a policy clearinghouse to which all participants will submit proposals for resolving questions raised by this new technology. If this policy coordination effort succeeds, it may serve as a model for future efforts to grapple with the introduction of new communications technologies.

Beyond American borders other nations have slowly concluded that competition and open markets should guide the development of telecommunications policies. At times this disparity has thwarted U.S. efforts to expand its competitive policies into international telecommunications. Nationalized telecommunications entities have been reluctant to extend operating agreements to the multiple U.S. carriers, preferring the stability of long-standing relationships with AT&T. American firms seeking to provide enhanced services abroad have found it difficult to obtain circuits in foreign countries or find them available only under onerous terms.

In these instances the established international telecommunications bodies have not proven to be useful forums for resolving these disputes. To the contrary, these fora are dominated by nations that retain a centralized telecommunications structure resistant to competitive entry.[24] Not surprisingly, then, the proposals made in these fora sometimes run directly contrary to U.S. telecommunications policy. The draft international telecommunications regulations prepared for the 1988 World Administrative Telephone and Telegraph Conference (WATTC), for instance, drew opposition from the United States and several other nations because the draft appeared to extend the applicability of international regulations to enhanced service providers and private telecommunications networks that are unregulated in this country.[25] While there has historically been a concern at these international meetings that the United States will attempt to impose its model of telecommunications regulation on the rest of the world,[26] instances such as these draft regulations raise have caused at least one prominent American official to question whether the WATTC was a "help or hindrance" to the provision of international telecommunications services.[27]

Under these circumstances the United States has pursued its competitive policies outside the established international bodies, usually in bilateral negotiations that seek to lower barriers to the competitive provision of international communications services and, increasingly, the sale of telecommunications equipment. While the United States remains an active member of the international bodies that operate under the auspices of the International Telecommunication Union, those bodies serve less to establish international telecommunications policy and more as source of technical standards.[28]

As a result, each member nation of the ITU pursues its own domestic telecommunications policy in splendid isolation, without regard for its impact on other nations. The result is a mismatch of international policies that bump up against one another with increasing frequency. The United States authorizes numerous international carriers, for instance, but foreign telecommunication administrations prefer to grant landing rights to only one of them. The United States opens its market to foreign telecommunications equipment, but foreign nations prefer to give preference to their own suppliers or retain the traditional monopoly structure. Notwithstanding the tensions that result from these admittedly legitimate differences in policy, there is no effective international forum for resolving them.

The Need for Coordination

There is a legitimate role in the policy process for each of the institutions described above. No single entity of a reasonable size could responsibly manage the technical and political challenges of setting federal, state, and international communications policy. Perhaps more important, the wide variety of institutions participating in the process is the best way to assure that the greatest number of interests will be represented in the formulation of policy. Thus, the technical expertise of administrative agencies is tempered by the political sensitivities of legislatures. The tendency of the federal government to expand its domain is checked by the states.

This range of institutions, with no single locus of control, means that a diversity of media provides the public with the widest possible range of information. Such diversity would be far less likely where one entity sets the rules and determines how many voices would speak.

Despite the value of diversity, however, the policy process is tending toward entropy. Federal communications regulators make decisions with trade implications but do not have the expertise or the statutory authority to take those implications into account; the failure of Congress to revise a fifty-year-old regulatory framework to reflect current developments in telecommunications technology laws leaves important decisions to the courts; state regulators fighting to hold on to their jurisdiction adopt rules inconsistent with national policies in favor of competition. The value of diversity is lessened where some form of coordination is lacking.

Coordination need not stifle diversity. (Nonetheless, each participant in the process must recognize that its role in setting policy does not occur in a vacuum.) The FCC and the Trade Representative must consult, for instance, on the implications of deregulatory communications decisions on the balance of trade. The states and the FCC should make greater use of the joint board mechanism to establish fora to discuss such issues as open network architecture and the establishment of standards for interconnecting the growing number of local and long distance networks. There must be an international mechanism for resolving differences that are bound to occur as sovereign states adopt particular communications policies to meet their own domestic needs.

Every citizen has a stake in those policies, and therefore the broadest possible participation in the formulation of policies as basic as the structure and development of the communications industries is an extremely important goal. Participation, in turn, depends upon institutions giving voice to all relevant interests. Such a system functions only if each institution recognizes its own interest in working cooperatively and if a federal coordination can help each voice to be heard clearly.

Organizationally, the telecommunications policy process is missing a focus. Regulatory agencies, legislatures, and interest groups compete with one another to establish their hegemony in the process, each playing off the others to realize short-term goals.

Even the executive branch has no central locus of telecommunications authority. The Department of Justice has twice in the last forty years brought antitrust actions against AT&T. Both times, it was opposed by the Department of Defense, which argued that military security demanded a single communications carrier. The Department of State shares responsibility with the FCC for coordinating U.S. international telecommunications policy, except for telecommunications trade, which is the province of the U.S. Trade Representative.[29]

Effective involvement in the communications policy process by the executive branch has been further hindered by the lack of a statutory mandate to establish policy. The principal locus of executive branch policy development, the National Telecommunications and Information Administration (NTIA), has no authority to take independent action. Notwithstanding its charge to "serve as the President's principal adviser on telecommunications policies . . . and the regulation of the telecommunications industry,"[30] NTIA is generally perceived to be peripheral to the executive policy structure. Significant communications policy proposals in the Reagan administration, such as whether to advocate repeal of the line-of-business restrictions on the local Bell companies, required the assent of more senior officials.[31]

The president's greatest influence over communications policy comes through his power to designate the chairman of the FCC. Unless Congress confers direct authority on the executive branch to make policy, this will remain the center of executive power. However, the president can augment his authority—and perhaps impose some order on the chaotic communications policy process—by articulating a communications policy and establishing an office within the White House to help implement it.

The forthright articulation of policy goals by the president, and direct efforts to implement them, can carry far greater weight and authority than any regulatory mandate or speech by a member of Congress. The president already has the authority to take into account matters concerning trade, antitrust, and national security matters in formulating a communications policy. Were nothing else about the policy process changed, the president's direct involvement would serve to focus the process.

Shifting communications policy functions from the White House to the Commerce Department in 1978 was an effort to depoliticize communications policy after heavy-handed efforts during the Nixon administration to pressure the networks to remove what it perceived to be "liberal" biases in news coverage. However, the move also appeared to diminish the importance of communications policy; it is now time to reassert its priority. The stakes in the outcomes of communications policy debates will only increase in the coming years. A clearly articulated statement of principles and a commitment to see them practiced may at least have the effect of setting the terms of the debate.

Is this reform enough? The Commerce Department has argued that true reform of the process requires the transfer of authority to establish communications policy to the president. Under this plan the commission's role would be reduced to implementing policies set directly by the president.[32] The president's power would be unchecked under the Commerce Department plan, except in the rare instance in which statutes explicitly restrained this power.

There are grave risks to giving the president almost total control over communications policy. Recent history provides a number of examples of government officials who tried to exert undue pressure on the media. The current decentralization of control over communications policy, while it may have contributed to the fragmentation of the policy process, has also limited it. Centralize control over the communications policy in one branch of government, and that restraint is significantly undermined. It is by no means clear that self-assured policy pronouncements will yield better results than the give-and-take of debate and consensus-building. In the end perhaps it is the very sloppiness of the process that is our best assurance of "diverse and antagonistic" sources of information free of undue government influence.

Congress and Telecommunications Policymaking

John A. Ferejohn and Charles R. Shipan

Changes in telecommunications policy are often thought to be controlled by agencies, courts, and telecommunications businesses, with Congress helplessly observing from the sidelines. To be sure, there is a great deal of legislative activity—irate speeches, bills, hearings, legislation reported from committees—but the massive changes in telecommunications regulation in the past decade have not been made in the Capitol. Virtually every attempt at legislation bogged down somewhere in the legislative labyrinth. Many observers have therefore concluded that Congress is powerless in the telecommunications area.

Interestingly, these charges often come not only from critics of Congress, but from congressmen themselves. Ernest Hollings (D.-S.C.), chairman of the Senate Commerce Committee, commented recently that "there is no doubt that we have a runaway animal in the FCC." Representative Al Swift (D.-Wash.), discussing FCC broadcast policy, echoed Hollings' frustration: "Congress's policy intent was as clear as could be . . . The FCC is taking full advantage of the fact that Congress is an extremely powerful, but muscle-bound, giant who sometimes has trouble getting up off its inertia to do anything."[1] Congress, then, would not seem to have much influence at all in this policy area.

Despite the complaints of Congress and its critics, Congress does indeed exert a strong influence on the FCC and therefore on telecommunications policy. Congress may not "control" the FCC, but Congress is able to exert a strong influence over agency decisions in certain specific circumstances.[2] At the heart of this study is the committee system in Congress and the differences in preferences between the committees and the chamber floors. We also believe that by building and maintaining reputations, congressional committees may be able to increase their influence over agencies.

In this essay we examine two issues in telecommunications policy in which the FCC has attempted to pursue policies that were distant from the policy desires of their supervising committees in Congress, and in which congressmen made use of various instruments of congressional influence. In both cases the agency ultimately yielded to congressional preferences to some degree. However, the agency was not forced to give up so much ground that Congress dominated in these areas. Rather, policy outcomes reflected a mix of bureaucratic autonomy and congressional influence.

Specifically, we explore the FCC's attempt to restructure telephone prices by imposing end-user access charges. We then examine an ongoing issue—the debate over whether rate-of-return regulation should be replaced by price cap regulation. In both cases the agency struck a position which was viewed with disfavor by Congress. But congressional reaction was strong and effectively caused the FCC to reconsider their proposal and to move to a position somewhat more acceptable to congressional committees.

The FCC's Access Charge Decision

The introduction of various forms of competition into the long-distance and terminal equipment markets over the past two decades has produced powerful pressures to alter the structure of telephone prices. In particular both regulatory agencies and telephone companies came to recognize the virtue of recovering the fixed costs of telephone service through fixed end-user access charges rather than by recovering these costs by usage charges.

In order to recover the fixed costs of telephone service in an economically efficient manner (and to remove the incentives of large users to bypass the telephone network altogether), the FCC resolved to move to a pricing scheme that removed the incentive for uneconomic bypass by bringing prices into line with the costs of service.[3] Their solution was a two part tariff: charge customers a fixed monthly fee—an end-user access charge—that reflected the costs of connection to the system, plus a usage-based charge which reflected the variable costs of the services they actually used. This system, once in place, would have the effect of reducing the possibilities of cross-subsidization among classes of users.

Two issues complicated this proposed shift in policy. First, to the extent that the introduction of the new scheme would lead to shifting of charges among user groups, these groups could be expected to complain. A second, more important issue arose from the divestiture of American Telephone and Telegraph (AT&T). The Department of Justice and Judge Harold Greene were at pains to point out that the divestiture itself did not have any necessary connection to how fixed costs were recovered.

If the FCC decided to do so, the traditional cost recovery scheme could be continued, but then the flows of funds would occur among separate legal entities and be visible to politicians and their constituents.[4] If the issue were to get to Congress, the arbitrariness of the traditional arrangements, where rates where averaged in order to subsidize certain customers, would surely become a matter of contention.

In its original access charge proposal, announced in December 1982, the FCC recognized and attempted to resolve some of these difficulties. First, the access charges were set uniformly and did not reflect the actual interconnection costs of particular users allowing high-cost users to continue to receive a subsidy (through what was called the Universal Service Fund). Second, the access charges were phased in gradually over a six-year period so that shifts in rates would be less wrenching. Third, long-distance competitors were not required to pay as much for interconnection as AT&T, although their charges would be greater than under the previous system.

While AT&T, the local operating companies, and many leading economists supported the proposal, consumer groups, state regulators and smaller long-distance companies were strongly opposed to it. During 1982 telephone companies had begun requesting massive rate increases from the state Public Utility Commissions (PUCs). While these requests reflected inflationary cost increases and regulatorily imposed changes in depreciation practices, many state commissions claimed that they also reflected the anticipated effects of the new access charge scheme. Thus, virtually all of the PUCs opposed the FCC plan in comments before the commission, and many appeared before congressional committees to voice their complaints. Moreover, while the new long-distance companies supported FCC's general pricing concept, they opposed the actual plan because it offered them less favorable rates than did the continuation of the preexisting system of interexchange access charges.

Within the first few months of 1983 several bills were introduced before Congress aimed at stalling or modifying the commission proposals. While the congressional proceedings reflected a considerable amount of confusion over the causes of local rate increases, congressmen saw that they might be held responsible for these increases by constituents, and so they were motivated to try to keep rates down if they could. One way they could accomplish this was to try to influence the FCC access charge plan.

In midsummer the Commerce committees of the two chambers held hearings on a variety of legislative proposals. The two plans that took center stage were the bills proposed by Senate Committee Chairman Robert Packwood (R.-Ore.) and a plan by Representatives Tim Wirth (D.-Colo.) and John Dingell (D.-Mich.).[5] Each proposal aimed to stop the FCC from imposing its access charge scheme and to continue to recover fixed costs from usage charges. Both dealt with the threat of bypass by regulatory means: the Senate bill by simply prohibiting various forms of bypass and the House legislation by directly taxing bypassers to pay for the costs of the local loop. House committee Chairman Dingell succinctly stated the central purpose of both proposals: "As I see the situation, we are preserving the status quo. The shifts of money around the country stemming from allocations of costs between long distance and local service, between different regions, would remain . . . substantially the same as they are today."[6]

Just as joint committee hearings commenced, the FCC revised its original access charge plan, effectively diminishing the magnitude of the charges and making the phase-in more gradual. The tone taken by congressmen and senators in the hearings suggest that the agency had not gone far enough. As hearings proceeded, congressional action seemed increasingly likely. Wirth, Dingell, and Packwood, in their questions to witnesses, all indicated that they expected to get bills to the floors of both chambers by late fall. However, there were major obstacles in the way of enacting legislation.

The hearings revealed significant congressional concern about the distributional impact of the bills. Senator Frank Lautenberg (D.-N.J.) emphasized the congressional concerns with distributional issues: "I guess what we are trying to do is to remake by legislation the AT&T system as it existed before, because we are trying to get the parts of the system that were subsidizing local residential service to pay a share of that subsidy again."[7] Members from low cost-of-service states (New York, New Jersey, Michigan) wondered why their states should subsidize those with higher costs, largely located in the sunbelt (Florida, Nevada, Arizona).[8] Indeed the only successful amendment offered in committee was one proposed by James Florio (D.-N.J.) who proposed an amendment encouraging the FCC to "deaverage" long-distance rates so that urban areas would no longer subsidize rural regions through their phone bills.

Following a contentious markup session, the House subcommittee reported H.R. 4102 with a 10–5 party line vote, and in late October, after a long partisan dispute in which a number of Republican amendments were defeated, the Commerce committee finally reported the bill to the floor for consideration. While the committee deliberations were proceeding, the FCC tried to diminish the sense of haste by moving to delay the imposition of the access charges for an additional four months. In spite of the internal disagreements and the commission's revision, the House defeated two partisan attempts to weaken the legislation, and on 10 November H.R. 4102 was passed by a voice vote.

The going was just as tough in the Senate. After initially accepting an amendment by Senator Frank Lautenberg that removed the prohibition on end-user charges and imposed a one-year moratorium on the FCC rules instead, the committee reached a compromise that contained a two-year moratorium and reported the bill in late October. It was clear, however, that the lack of committee agreement on a legislative vehicle made Senate prospects for successful legislation dim, and the leadership kept S. 1660 off the Senate floor until 1984, giving Senate leaders time to work on the FCC.

When the Senate postponed floor action, the agency was given a "window" within which it could again issue a revised access charge plan with the hope of forestalling legislative correction. On 16 January 1984 it issued a new decision which reduced the charges still further and delayed their implementation until the middle of 1985. Given the divisions within the Senate, the agency was not forced to capitulate completely: it had only to concede some ground and to delay the impact of its decision so that the urgency of congressional consideration was lost and the matter deferred until after the 1984 congressional elections.

Ten days later, and one day after the FCC reaffirmed its decision to delay the charges, the Senate voted 44–40 not to take up S. 1660, effectively killing it. Senator Packwood, commenting on the vote, indicated that the reason the bill was defeated was not due to AT&T's massive lobbying effort but to the fact that the FCC had deferred the imposition of the access charges. Senator Lautenberg, who proposed substituting the moratorium for Senator Packwood's prohibition on access charges, stated, "I thought our goal all along was to change the commission's course and change it we have."[9]

Theoretical Considerations

The access charge case presents an interesting and rich case of the congressional-bureaucratic interaction.[10] An agency position was staked out and then modified in response to congressional concerns. In effect Congress was able to signal its displeasure with the policy proposal. To gain a better perspective on the reasons for such an outcome, we turn now to a general case. Starting with a bicameral legislature and perfect information, what might happen?

If the agency is certain that legislation will be forthcoming, and if it knows that Congress has a specific policy in mind and will accept no other outcome, the agency would simply do what Congress most prefers and enact that policy. The committees, in actuality the key actors, will tolerate a range of behavior. If the agency knows the policy preferences of both the committees and the House and Senate floors, it can take these preferences into account when it makes the first move. The goal for the agency is to offer a proposal that the committees prefer to the outcome that would result from taking the issue to the floor under an open rule. If the agency operates within that band of activity, the committee has no incentive to bring legislation to the floor. The committees may not see the agency's proposal as an optimal outcome, but they see it as acceptable.

The model becomes much more interesting, and the interactions more subtle, once uncertainty is introduced. For purposes of simplicity, assume a unicameral legislature where the preferences of the House floor and the agency are known but the agency does not know what policy position the committee prefers. The agency will still have a band of activities which it can undertake without fear of its actions being overpowered by legislation (again, assuming an open rule). Because the agency does not know the position of the committee, it cannot precisely identify the location of this band.

Consider now two types of committees. A "nice" committee is one that is sympathetic to the preferences of the agency; a "tough" committee, in contrast, prefers the outcome that would result if the issue were taken to the floor. If the agency believes the committee is "nice," then the agency can implement its own preferred proposal (call this "A"), knowing that the committee will not bring legislation to the floor, where a less-preferred outcome may result. If the agency believes the committee is "tough," it will not propose A, for the committee, which prefers the floor outcome to A, might then attempt to introduce legislation. Instead of proposing A, the agency will propose something more palatable to the committee, something it believes the committee will prefer to the floor median. In other words the agency will try to stave off legislation.

The committee, of course, knows that the agency will be acting in this manner, and its behavior reflects this knowledge. In particular, if a committee is "nice," and makes this fact known, it risks having policy A implemented—a policy which it finds acceptable, but one which is far from optimal. However, this need not be the case, and in the access charge case it is not. The way a committee can affect policy is to develop a reputation for being tougher than it actually is. The agency may suspect that a committee is nice, but in certain circumstances it will be sufficiently unsure of this to warrant undertaking policy A.

Thus, in order to obtain a policy result it prefers to A, the committee must act to convince the agency that it is "tough." It can signal this in various ways: excoriating the agency in speeches, holding hearings, proposing legislation, and scheduling legislation for floor consideration. Committee actions will be convincing to the agency insofar as they are the kinds of things that a "nice" committee would not wish to do but which a "tough" committee would find worthwhile to undertake. In other words signaling activities undertaken by the committee must be known to be costly for the committee to carry out.

The access charge case can be seen as an agency miscalculation or mistake. The agency initially believed that the committee was likely to be "nice" and, as a result, it doubted that the committee would pursue legislative action. Therefore it persisted in pursuing a congressionally unpopular course. In response to this choice congressmen acted to convince the agency in the end that legislative intervention was likely and that the agency should alter its proposed policy.

Price Cap Regulation

We turn now to a case currently being debated by Congress and the FCC—whether traditional rate-of-return regulation should be replaced by price cap regulation.[11] In December 1986 the broad outlines of price cap regulation were drawn by Dennis Patrick, who was at that time an FCC commissioner. Several months later, when Patrick became chairman of the FCC, the price cap issue moved to the top of the commission's agenda. Chairman Patrick enumerated several potential benefits of this new approach: consumers would be protected both by a price cap and by mechanisms to lower the cap over time; companies would be rewarded for bringing costs down, thus eliminating one of the perverse incentives inherent in rate-of-return regulation; and the incentive to cross-subsidize unregulated services with regulated ones would be removed. In addition, Chairman Patrick promised, the caps could be adjusted over time, taking into account price inflation, gains in productivity, and changes in access charges. Finally, Chairman Patrick attempted to assuage the concerns of Congress by stating that the commission would "continue to maintain the requirement for geographically averaged rates throughout the country."[12]

Over a period of several months the FCC continued to study this issue, and at its 4 August 1988 meeting the commissioners unanimously moved to open docket 87-313, a notice of proposed rulemaking to examine the possibility of price cap regulation. Notably, the commission kept a wary eye for congressional opinion, stressing that price caps did not represent an attempt to deregulate but were simply a better regulatory method.

Congressional reaction was swift and severe. Despite FCC claims of consumer benefits and technological innovation, members of Congress castigated the proposal, especially for its lack of detail. Congressman John Dingell was especially sharp in his criticism, characterizing the proposal as a continuation of "the ideological assault on the public interest begun by the previous FCC." He complained further that "without additional safeguards, [the] proposal would merely allow long distance companies to reap unregulated windfall profits."[13]

Congressman Edward Markey (D.-Mass.) echoed these complaints, viewing the proposal as a "social welfare plan to redistribute the wealth from telephone consumers to telephone company shareholders."[14]

Despite strong opposition from Congress, the FCC forged ahead and continued to solicit comments on how best to implement a price cap approach. In response Congressmen Markey and Dingell continued to issue statements criticizing the FCC's approach and proposal, and finally, in early February, two bills were submitted in the Congress. Representative John Bryant (D.-Mass.) offered H.R. 3910, and an identical bill, S. 2044, was submitted in the Senate by John Kerry (D.-Mass.). These bills ordered the FCC to terminate its rulemaking proceeding and disallowed any revision of rate-of-return regulation until 1 January 1989. The one-page bills further demanded that any new proposal specify exactly how customers would receive "comparable or better service at lower rates than under the current system of regulation."

In addition to threats of legislation, Democrats continued to attack the proposal. Both Senator Kerry and Representative W. J. Tauzin (D.-La.) offered comments criticizing the FCC, demanding that the commission slow down and give detailed consideration to its proposals. Congressman Markey further fanned the flames by declaring price caps to be the top issue before his subcommittee.

With pressure from Congress and equivocal support from members of the telecommunications community, Chairman Patrick finally retreated a bit. He wrote to Congress and agreed to issue a further notice of rulemaking, due in April, which would offer a more specific proposal to which the FCC would solicit further comments. While reaffirming his commitment to the plan, and continuing to stress the benefits it would yield, Chairman Patrick also seemed to realize that the docket in its current form was in trouble.

Congressional critics of the proposal were mollified, at least temporarily, and applauded this "positive response to the intense concern expressed by the public and the Congress with the vague and conceptual proposal."[15] While debate over the plan continued to rage outside of the Congress and the FCC, these two main parties appeared to have reached a temporary cease-fire.

In May 1988 the commission unveiled a new, much more detailed plan. According to FCC analyses, the new plan would save ratepayers

$1.6 billion over the next four years, partly due to a "consumer productivity dividend," whereby consumers would immediately benefit from any gains in efficiency made by the companies. The plan, to be implemented on 1 April 1989, comprised several changes, including elective participation for AT&T and the Local Exchange Carriers. Specifics filled the proposal, ranging from detailed eligibility requirements for the LECs to specifications about price caps determinations and adjustments over time.

In Washington both houses of Congress planned summer hearings on the plan. In the Senate the FCC was mildly applauded for having formulated a detailed plan in response to earlier congressional desires and for having apparently taken the interest of consumers into account. Once again, however, the House was not pleased with the outcome—indeed, its response changed little from earlier comments. Adding to fears that consumer interests had not been properly addressed was the optional nature of the plan: rather than providing more flexibility, members felt this option would only hurt consumers, as the companies would naturally choose the more profitable option.[16]

Perhaps the most telling statements were made by Representative Mickey Leland (D.-Tex.) in mid-June. Noting that only three commissioners were currently seated and that it was widely rumored that Chairman Patrick would not last to the end of the Reagan administration, Leland commented: "I have grave reservations about how successfully a new regulatory scheme can be implemented in the midst of such a transition. It is my view that such an ambitious proposal as price caps should be deferred to the next administration."[17] With time looming ever larger as a limiting variable, and given the prospect of long hearings, the future of the proposal was in doubt. Despite apparent FCC efforts, some members of Congress still were not satisfied.

Hearings held by the House telecommunications subcommittee in mid-July did nothing to encourage proponents of the proposal. Once again, House Democrats, led by subcommittee chairman Markey, harshly criticized the plan. In particular the short tenure left to the current administration was becoming an open issue. In his opening statement Congressman Markey argued that the proposal raised questions that "cannot be answered in the very few short months left to this administration." His partner in criticism, Congressman John

Dingell, echoed this complaint, asserting that the FCC did not show proper respect for due process.

Chairman Patrick fared somewhat better with House Republicans, many of whom noted that the FCC had responded to congressional concerns. Some even went so far as to suggest cautiously that Congress should let the FCC proceed. There was little doubt that Chairman Patrick wanted to move forward. He maintained that the commission had the authority to proceed, under the 1934 Communications Act, regardless of congressional approval. At the same time he tried to placate critics in Congress, suggesting that were price caps successful, prices would be reduced to reflect efficiency, and the productivity factor, a point of contention for many congressmen, would be adjusted beyond the initial 3 percent setting.

Things might have been easier for the FCC if, in the face of congressional criticism, it had a plan approved by a consensus of affected parties. This was far from the case; comments to the more detailed notice were not favorable at all. In general commentators suggested that the agency seriously reevaluate the proposal. Many parties which had supported price caps in the past were unable to endorse this new proposal, and even worse, several groups which had formerly supported the theory of price cap regulation now withdrew their support and suggested that the FCC drop the proposal entirely and work instead to improve the existing regulatory system.

Senate hearings, scheduled for early August, provided yet another public forum for debate over price caps. Senator Daniel Inouye (D.-Hawaii) quickly set the tone for the well-attended hearings, and it became apparent that the FCC would not meet with resounding approval in this arena either. Senator Inouye reminded price cap proponents of the lesson of subscriber line charges, when Congress was able to first delay access charges and then cause the fees to be reduced and phased in over time; he suggested that similar pressure would be applied in this case. He also called for more deliberation on the issue, expressing concern that further study was needed to prove that price caps would benefit customers and not hurt service quality, and threatened that the Kerry bill (S. 2044) might be acted upon if the FCC did not slow down.[18]

Since the hearings not much has happened. New studies by the Office of Management and Budget and by BellCore have appeared —with the former approving the concept of price caps but arguing that it is not deregulatory enough, the latter asserting a $5 billion savings for customers over the next four years. The FCC extended the reply comment deadline, apparently in response to concerns expressed both by commenters and by Congress. Congress has been silent. It seems that certain members of Congress will not be placated by any FCC action short of dropping the entire proposal while others appear more amenable to change. The question is one of timing. Chairman Patrick continually changes his proposal to address congressional concerns, only to meet further criticism. The proposal remained in a precarious predicament in the last days of the Reagan administration. Some Congressmen seem to want to talk the proposal to death.

Commentary

In both cases the FCC responded to congressional threats; some observers might be tempted to conclude that Congress, or its committees, got what it wanted. In both situations the committees wanted to stop the FCC from changing the regulatory status quo ante, and in both the agency yielded to committee demands. Proponents of congressional dominance might claim further that these cases are instances in which the agency misread the political environment and tried to promulgate a policy that incurred the wrath of its congressional supervisors. Recognizing the error of its ways, the agency changed course.

But did the committees get what they wanted? The FCC delayed the imposition of user access charges but ultimately imposed those charges. In the case of price caps things are not yet clear. In the short run the regulatory status quo ante will be preserved, but it seems possible that the agency will eventually find a way to gradually phase in price caps with congressional committee approval. Congress seems able to delay, but it is not clear that it can stop the FCC from changing policy over the long run.

In the model presented here the agency responds to the committee, but it does not end up giving the committee everything it wants. Rather, in the case in which information is perfect, the agency adopts a policy that makes the committee indifferent between taking legislation to the floor and allowing the agency to pursue its announced policy. Thus, there is congressional influence, but there is not really congressional control. There is a relationship between what the committee wants and agency choices, but the committee does not get its preferred outcome. Rather, it derives just enough of what it wants so that it will not pursue legislation.

Congressional influence is stronger under some conditions than others. When the preferences of the committee members are similar to those of Congress as a whole, the threat of legislative alteration of agency policy is more credible, and the agency can be expected to choose policies that are more acceptable to the committee (as well as to the Congress as a whole). Thus, agencies under the jurisdiction of committees that are relatively representative of their chambers (the House Ways and Means or Appropriations Committees, for example) are more likely to adopt policies reflecting the preferences of their committees.

If the president is willing to veto legislative interventions, the conditions for congressional influence are less propitious. The agency need only choose a policy which one-third of the members of one of the chambers finds preferable to the legislative outcome were a bill to be passed. It is uncertain if or when a president would be willing to stand between the FCC and the Congress; such action might be politically costly and thus appropriate only in extreme cases.

What do these results mean for telecommunications policymaking? There are several implications. First, congressional committees can be powerful actors in telecommunications policy but only insofar as they are representative of their parent chambers. If the committees become too sympathetic to agency goals and purposes, they lose their leverage in the policy process and can be safely ignored.

Second, members of Congress have a common interest in ensuring that their committees are powerful in the policy process and, therefore, have an interest in keeping the committees representative of their chambers. Thus, while there are tendencies for committees to be self-selected and overly sympathetic with agency goals, or even to be "captured" by the agency, congressmen share an interest in limiting these tendencies.

Third, the role of Congress in the policymaking process is enhanced when the preferences or proposals of the agency become more "extreme." Thus, if the president appoints commissioners who wish to implement substantial departures from the status quo, we would expect the congressional committees to play an important role. It is therefore not surprising that congressional committees have been particularly active and assertive in recent years, which have witnessed major changes in FCC policy proposals.

Finally, we may ask about the implications of our results for the content of telecommunications policy. In both of our cases the main reason that congressional committees opposed FCC actions was that these actions threatened to shift the incidence of subsidies and costs among districts. Congressmen worried that their constituents would have to pay more for telephone services and, in turn, they would hold their representatives accountable for the increase. The members took the prudent course: they went on record opposing the changes and tried in various ways to keep the agency from implementing the new rules. Even if the FCC prevailed in the end, members could explain to their constituents that they had done everything possible to limit or delay the impact of the new policy.

From this perspective Congress's impact on telecommunications policy is predominantly conservative and oriented to short-run distributional considerations. The members assess proposed changes in policy by focusing on the impacts on their districts. Policies that shift the status quo ante sharply raise congressional fears, and when there is general congressional apprehension about a proposed policy, committees will threaten the FCC with legislative intervention and the agency may be induced to alter its course. In this sense congressional review can be expected to limit the ability of an agency to implement long-range plans and in this sense congressional supervision of agencies places constraints on the kinds of regulatory policy that can be sustained.

There is little doubt that regulators and policy analysts sometimes find congressionally founded constraints annoying and irrational. However, they are inherent in the system of representative government practiced in the United States. Congress is a geographically representative body whose members wish to retain their seats and agencies must rely on congressional support for their programs. Congressmen are naturally apprehensive about large policy changes, and the larger the proposed change the more likely it is that Congress will be willing and able to threaten an agency with legislative intervention. Congressional supervision slows policy change and limits the distributional impact of such changes. This may produce poorer and less flexible regulatory policy than an executive-led system of government would produce. But the alternative of limiting the extent of congressional supervision and control may be less attractive still.

Reforming the Federal Telecommunications Policy Process

Henry Geller

Policy process at the federal level has been, and remains, flawed in the telecommunications field. The present executive branch structure for formulating and implementing telecommunications policy was fashioned in a 1977 Reorganization Plan. The authority bestowed upon diverse executive departments and agencies is fragmented and has led to jurisdictional battles, delays, and confusion. The lack of focused responsibility becomes particularly acute in light of the independence of the Federal Communications Commission. This flawed policy process is especially egregious in view of the great importance of telecommunications in the information age and the difficult policy issues now confronting the United States, particularly in the international trade arena.

There are a number of ways to improve the policy process. Most preferable would be the establishment of a new agency, the Federal Telecommunications Agency, with full powers in this area, excluding matters directly involving the electronic mass media. At the least it would be desirable to establish a presidential assistant for telecommunications with full authority to act for the president to insure proper policy coordination. A presidential assistant would insure proper coordination and, when appropriate, presidential focus on telecommunications issues.

Further, this assistant might then be able to effect a comprehensive study of telecommunications policy, both substantive and procedural. Since the last executive branch study in this area, the changes in telecommunications have been extraordinary and raise a host of complex issues. A new study, using prestigious and informal government and nongovernment members, would therefore be useful.

Communications Policy Process

The 1949 Task Force Report for the Hoover Commission, Commission on Organization of the Executive of the Government (Committee on Independent Regulatory Commissions) concluded: "[T]he [Federal Communications] Commission has been found to have failed both to define its primary objective intelligently and to make many policy determinations required for effective and expeditious administration."[1]

The 1951 Communications Policy Board, established by President Truman, found that complex problems in the telecommunications field were being dealt with on a "piecemeal basis," with little prospect for developing "a total national communications policy," in light of the "dispersion, confusion, gaps and deficiencies in the product and performance of those agencies charged with telecommunications policy responsibilities." The board concluded: "The whole Government telecommunications structure is an uncoordinated one and will be even less adequate in the future than it has been in the past to meet the ever-growing complexities of telecommunications. A new agency is needed to give coherence to the structure."[2] No effective new agency was created. The FCC remained the focal point and was the subject of considerable criticism in the next decade. Thus, the 1960 Landis Report states: "[T]he Commission has drifted, vacillated and stalled in almost every major area. It seems incapable of policy planning, of disposing within a reasonable period of time the business before it."[3]

During the 1960s a strong push emerged generally for a single administrator, serving at the pleasure of the president, with a special variation in the case of the FCC. The strongest statement for this reform is that of the 1971 Ash Council: "Inherent deficiencies in the commission form of organization prevent the commission from responding effectively to changes in industry structure, technology, economic trends, and public needs."[4] The Ash Council found an agency of coequal members to be inherently ineffective because differences among the members prevent the adoption of general rules or policies and lead an inefficient case-by-case approach to decisionmaking. The difficulty of marshaling a majority position for each case often leads to procedural solutions—a focus on legislative form rather than substance. The council found other important detriments: the difficulty to induce highly qualified persons to serve as coequals on collegial commissions and the tendency to overjudicialization, to place "too great an emphasis on legal perspectives."[5] The council concluded that "the regulatory commissions are not sufficiently accountable for their actions to either the Congress or the President because of the degree of their independence and remoteness in practice from those constitutional branches of government"; and that "regulatory activities, therefore, are not adequately supported."[6]

The Ash Council, however, did not recommend abandonment of the collegial form for the FCC:

> The FCC regulates, among other things, radio and television broadcasting, both important sources of public information. . . . The mere appearance of possible undue influence over program content might undermine public confidence in the sources of its information. Thus, we believe it would be inadvisable to place in the hands of a single administrator the power to exercise control over industry members through licensing and programming decisions.
>
> Moreover, because broadcast regulation is uniquely subjective in character, we believe that the decisions in this area should reflect the personal values of more than a single individual. . . .[7]

Noting that "the public is entitled to assume that the information it obtains through the broadcast media is not distorted by the political perspectives of the party in power," the council suggested that "placing in the hands of a single administrator, appointed to serve at the pleasure of the President, the power to exercise control over industry members through licensing and programming decisions could create the suspicion of improper political influence over content of broadcasting."[8]

Many earlier critics raised this same argument against the collegial form of commission. Thus, Newton Minow, FCC chairman from 1961 to 1963, strongly urged that "the FCC could accomplish much more with one basic change by splitting the administrative and judicial functions. The judicial functions should be vested in an administrative court; the other responsibilities should be borne by a single administrator appointed by the President (with the advice and consent of the Senate) and serving at his pleasure."[9] Stressing that "policy making is the critical responsibility of the agency" and the one area most deficient today, Mr. Minow stated:

> . . . The multimember agency has great difficulty resolving differences among the members, each with his own approach to basic policies. The result is to not formulate the policy and to postpone the policy decisions to resolution on a case-by-case basis, which all too often means inconsistent decisions, with the public and the regulated industry not knowing the ground rules. More important, its consequence is that vital planning and policy measures are not undertaken.
>
> The single administrator would not be hamstrung by such wide splits among agency members. His basic job would be policy formulation and he would have no excuse for not doing so. Indeed, he would be compelled to do so, because of the division of the agency's functions between himself and the administrative court.[10]

The 1968 Task Force on Communications Policy ("Rostow Commission") recommended the creation of a new executive branch entity to provide long-range planning and policy formulation, on the basis of the following study conclusions:

> Traditionally, government has viewed telecommunications primarily as a mission-support function, rather than a focus for public policy. The result has been that policy has evolved as a patchwork of limited, largely *ad hoc* responses to specific issues, rather than a cohesive framework for planning. Government organization for this formulation and implementation of communications policies reflects this evolution. . . . The patchwork nature of the present structure is not conducive to optimum performance of the telecommunications activities and requirements of the Federal Government.[11]

A 1983 NTIA (National Telecommunications and Information Administration) study dealt in considerable detail with policy process in the international field. It noted that while foreign administrations (PTTs) advance a focused position, the United States is often perceived as unable to "get its act together." Congress has therefore considered requiring more centralized decisionmaking.[12]

Finally, the recent NTIA *Telecom 2000* report, building on the 1983 study, reached the following conclusions:

> International, and sometimes domestic, telecommunications and information policy under the current organizational structure is

> often reactive and skewed toward achieving short term objectives, focusing too much on maintaining the status quo, despite the influx of technological innovation and marketplace pressures. . . .
>
> The current structure invites forum shopping and "divide and conquer" strategies by special interests, including foreign-based, and makes leadership and Congressional oversight difficult. . . .
>
> The FCC's direct supervisory powers over the overall telecommunications and information industries has steadily diminished due to deregulation of mass media and common carrier markets, increasing market shares of completely unregulated or less regulated industries, and FCC decisions to not regulate certain businesses. . . .
>
> Despite Congressional and Executive branch calls for improvements over many decades, the structure for telecommunications and information policymaking remains part of the problem, not the solution to the nation's telecommunications and information policy challenges.[13]

Present Organizational Structure

Federal Communications Commission

The FCC is an independent agency of five members, appointed by the president with the consent of the Senate, with the chairman designated by the president. The executive branch advances proposals to the agency, but the FCC is truly independent of that branch. In recent years the Congress has taken to "micromanaging" the agency, largely through the use of riders to the appropriations process directing the agency not to take specified actions. Industry proponents, as a result, have gravitated to the powerful congressional committees as much as to the Court of Appeals in contesting agency action.

In the spectrum area the FCC closely coordinates its actions with NTIA to avoid conflicts (the spectrum is split between government and nongovernment use, with 40 percent shared). Even in its own area, the FCC shares power. Thus, the antitrust court in the AT&T case can and does affect what the FCC can do in provision of enhanced services by the divested Bell Operating Companies (BOCs).[14] In areas like Open Network Architecture (ONA), upon which the agency has staked so largely its policies for permitting BOC entry into enhanced services, the FCC must act cooperatively with the State Public Utility

Commissions (PUCs). Although the FCC can preempt the states, the area of preemption remains in doubt in light of the recent Supreme Court decision in *Louisiana Public Service Commission v. FCC.*[15] Both the federal-state and the antitrust court-FCC areas pose difficult and complex policy problems.

National Telecommunications and Information Administration

NTIA, a division in the Department of Commerce, was created by the Reorganization Plan No. 1 of 1977, which abolished the Office of Telecommunications Policy (OTP) and established the position of assistant secretary of commerce for communications and information. NTIA's authority is detailed in Executive Order 12046 and includes serving as the president's principal adviser on telecommunications policies, developing such policies, assigning government frequencies, coordinating the telecommunications activities of the executive branch, insuring that the branch's views on telecommunications matters are effectively presented to the FCC and Congress, and developing policies relating to international telecommunications issues and conferences in coordination with the Department of State.

While this is a broad charter, in practice NTIA has encountered considerable difficulties. It cannot implement the policies it proposes and has had problems establishing a partnership with other agencies, particularly with the Department of State. Executive Order 12046 is so vaguely worded that it does not settle conflicts or even issues of coordination. On any given issue, NTIA, the Departments of State, Justice, and Defense, and other agencies may all take positions on matters before the FCC or Congress—all without effective coordination. The same confusion characterizes their posture on appellate matters.

Department of State

Executive Order 12046 provides that with respect to telecommunications, the Department of State, with appropriate coordination, "shall exercise primary authority for the conduct of foreign policy, including the determination of United States positions and the conduct of United States participation in negotiations with foreign governments and international bodies." The under secretary of state for security assistance, science, and technology generally takes responsibility, with the Bureau of International Communications and Information Policy (CIP) working under his purview. Principal responsibility for telecommunications trade issues rests with the Bureau of Economic and Business Affairs, reporting to the under secretary for economic affairs.

Other Executive Branch Agencies

In addition, the U.S. trade representative has the primary responsibility for development and implementing U.S. international trade policy. The Department of Defense is responsible for national security and remains the largest user of telecommunications services and facilities. The Antitrust Division of the Department of Justice participates in FCC rulemaking proceedings, is a statutory respondent in court appeals other than broadcast licensing actions, and represents the federal government in litigation. The Department of Justice is now the enforcement staff for the court in administering the terms of the consent decree (the Modified Final Judgment) entered in the AT&T divestiture case.[16]

Problems

The underlying premise of the Communications Act of 1934 is centralized control of telecommunications policymaking. But such control is patently lacking today, and its absence is especially serious because of new factors: the greater importance of the telecommunications infrastructure to the nation in light of increasing global competition in virtually all sectors of the economy (and thus the need for telecommunications to make a maximum contribution to improved productivity); the emergence of trade considerations; the present dominance of telephone and related telecommunications issues over broadcast matters; and the great changes wrought by dynamic technology.[17] All these matters are fully discussed elsewhere, and therefore only a few examples will be given in the international and domestic fields.

International Separate Satellite Systems

There is no real focal point within the executive branch for policy coordination in this area. Narrow, "turf-minded" battles between NTIA and the Department of State are not uncommon because of "fragmented, ambiguous grants of authority."[18] An eighteen-month battle ensued among executive branch agencies over the proposed policy on international satellite systems separate from INTELSAT. The proposal then went to the FCC, an administrative agency with the power to reject the proposal, thus frustrating foreign policy considerations.

TAT-7

Facilities for international transmissions are jointly owned and operated by U.S. carriers and foreign telecommunications entities, and responsibility for providing service is similarly shared. On the U.S. side the carriers are private businesses, subject to regulation. In other countries telecommunications entities are government or quasi-government agencies.

A consultive program on transatlantic facilities was inaugurated in 1974 to exchange views and air concerns among U.S., European, and Canadian organizations with principal responsibilities for such matters. This program did not resolve many of the basic issues or eliminate tensions, particularly on the part of the European participants. Thus, in the FCC's 23 March 1977 Report on International Telecommunications Policies, Chairman Richard Wiley stated:

> Perhaps the most serious difficulty . . . results from the different status and expectations of the U.S. and foreign participants in these discussions. The Commission, emphasizing its quasi-judicial role and concomitant inability to negotiate facility plans or specific facility authorizations, has insisted that the discussions must remain informal and consultative. Foreign participants, on the other hand, have made clear their frustrations in dealing with a country where no entity, including the government, has the final responsibility and authority to reach a negotiated settlement of outstanding issues. They prefer to discuss and negotiate specific policies and specific facility proposals and utilization plans rather than basic planning principles and information of general applicability.[19]

In the TAT-7 case the OTP called for a concerted effort by the U.S. Government agencies to develop a unified approach for a 1977 Rome meeting.[20] The FCC did not respond to the OTP overture because it was "concerned about the limitations of the Administrative Procedure Act."[21] And at a later meeting that year a consensus was reached "that development of a single U.S.-European Transatlantic Plan would not be possible in light of restrictions on the FCC's involvement in direct negotiations."[22]

In its 21 December 1977 Report and Order, the commission found no public interest justification for a facilities plan that included an additional cable facility—namely, TAT-7.[23] The FCC acknowledged that it was acting inconsistently with strong international sentiment. In defining the decisional weight to be given international comity, the commission stated that considerations of international comity may not be substituted for, or given precedence over, the regulatory public interest determination, since responsibility for that determination "has been delegated primarily to the Federal Communications Commission by means of statute which makes no specific provision for considerations of international comity but does specifically provide that the Commission must find that the public interest requires the construction under section 214 of the Communications Act."[24]

OTP attacked the decision on two grounds: first, that it is not possible for the commission to develop a meaningful cable-satellite plan because neither through the government instruction process nor Section 214 regulation of the act can the U.S. government directly control the construction and installation of the INTELSAT space segment; second, that the commission's decision was based on the premise that cost efficiency is "the single driving yardstick of domestic policy and that international comity is but a secondary concept."

In its October 1977 letter to the FCC the Department of State also urged the commission to reexamine

> the cost assumption which led the Commission to prefer a plan to which European and Canadian officials have taken strong exception. We would be remiss were we not to observe that their argumentation was consistent with our own view that international comity, and, indeed, an effective partnership, obliged each party to take into account the legitimate costs incurred by all other parties in implementing particular international facilities arrangements.

The department had received communications from most of the foreign ministries in Western Europe taking strong exception to the commission's actions and criticizing its seeming lack of sensitivity to other governments' decisions.

The commission succumbed to extensive pressure, and the disputed facility was authorized by the FCC, although implementation was somewhat later than most parties would have preferred.[25]

International Resale

Under a resale and shared-use system, both carriers and noncarriers can lease a private line to many users too small to enjoy volume discounts. The reseller thus acts as a broker of low-volume users. The reseller can also bring to bear new computer-based technology to add value to the telecommunications service.

The FCC authorized resale and shared use domestically in 1976 but struggled with the issue of its extension to international services.[26] As Commissioner Rivera recently described the situation:

> At my agency, a lack of finesse and sophistication has at times created havoc abroad. For example, when the FCC began its inquiry into eliminating regulatory controls on the international resale of private line service beginning or terminating in the United States, the result was chaos. The PTTs reacted in anger to what they perceived as a unilateral move to inject competition into their preciously guarded monopolies. The confusion and conflict were unnecessary because the furor created by this decision could have been prevented with some foresight and preparation at home and abroad.[27]

After its examination of the matter the report by the House Committee on Government Operations concluded:

> Whatever the merits of its position, by opening the questions of the resale and shared use of private international leased lines in a formal proceeding, the Commission excited the vigorous opposition of the Director of the CCITT of the International Telecommunications Union. The Director wrote a sharp letter to the State Department, pointing out that the FCC action was inconsistent with his understanding of past United States positions. Moreover, the Di-

> rector's letter is a reflection of concern over what he perceives as a unilateral United States policy action in a delicate area of international communications policy. Again, the Commission chose not to consult with other agencies before taking action. The international repercussions of its announcement prompted the State Department, replying to a Committee inquiry about the CCITT letter, to observe that, "As an independent regulatory agency, the FCC is not in a position to determine the foreign policy and national security implications of plans for international facilities and services." . . . [A]t the very least, however, close attention by the Commission to the nontelecommunications and foreign policy dimensions of its decisions is vital. It cannot simply extend its domestic decisions to international markets. The tendency, reflected in the resale and shared-use rule making, to treat international questions as an extension of domestic ones must be avoided.[28]

Trade

Telecommunications trade issues have come to the fore in this decade. They require a strong focus in the executive branch, close cooperation with the affected industries, "wheeling and dealing" by the executive branch, and finally, effective use of all levers within the United States, including the FCC authorization "card." But here again difficulties have surfaced. The Computer and Business Equipment Manufacturers Association, in 1982 comments to NTIA, complained of the existing executive branch process, and the NTIA *Telecom 2000* Report noted: "The secretaries of Commerce and State and U.S. Trade Representatives are legally required to coordinate their efforts with other agencies, but there is no specified mechanisms to ensure that this will occur. Unfortunately, accomplishing such coordination is difficult when faced with disputes among agencies, competing demands for high-level attention, time pressures, and often inadequate resources."[29]

As for the FCC "card," the agency has tried to become more active —more of a partner to the executive branch in this important respect.[30] But it has considerable difficulties in doing so. It is required to proceed under the Administrative Procedure Act, often on a formal record, and is unsure of the lawfulness of barring needed service in the public interest, for reasons of "wheeling and dealing" in trade matters—a much more informal, rough and tumble, nonrecord world.

Overall Telecommunications Policy

We have divided responsibility here between the FCC and the states. There is considerable benefit from this division. The states are much closer to the regulatory problems (the "grass-roots" factor) and can act as laboratories in regulating the essential monopoly services of the local exchange carriers (LECs). But, it is necessary to clarify the point where federal preemption is permissible in light of the *Louisiana* PSC decision.[31]

Moreover, Congress should deal squarely with fundamental matters concerning competition and competitiveness. It is now established federal policy to have full competition, open entry, resale, and fair and effective interconnection. It is also FCC policy to allow open entry to any field. But if the BOCs are to be free to enter such fields, correspondingly all parties should be free to enter the BOC preserve on fair terms. It makes no sense to have competition swirling about the entire system, but enclaves of de jure monopolies. Indeed, it is contrary to the stated goal of having telecommunications contribute to U.S. competitiveness. Most states, however, have opted to keep such enclaves for social policy reasons—that is, to keep local telephone rates low, not just for the poor or high-cost rural areas who could be targeted for subsidies, but for the large group of middle-class users. What is needed is a gradual movement toward a rational pricing and subsidy scheme, followed by open entry, resale, and fair interconnection.

Given state reluctance to adopt such a policy, only Congress can resolve this dilemma. Congress, however, micromanages the process, often through prescriptions in the appropriations bills or language in the continuing resolution, for short-term political considerations —offering, in effect, continued subsidies to the middle-class voters. In light of the growing importance of this sector to the national interest, long-term considerations must outweigh short-term, local political interests.

FCC and the Antitrust Court

The present overlapping authority of the FCC and the antitrust court in the AT&T case is wrong and confusing. The FCC, under a comprehensive public interest standard, is forging its open entry policies, including for the divested BOCs, and setting out conditions for that entry. The antitrust court is plowing the same ground under a different and much narrower antitrust standard. The parties favored by the antitrust court's position naturally lobby vigorously for that court's retention of authority. The pervasive regulatory scheme of the FCC should be the sole arbiter here.

In recent remarks to the Brookings Institution, Assistant Attorney General Charles Rule stated:

> Because of the role assumed by the court and the Department, regulation of the telecommunications industry has become seriously fragmented and at times potentially inconsistent. Despite the dramatic changes in the attitudes and tools of the state and federal regulators, the court seems to regard that progress as largely irrelevant to the administration of the decree. Meanwhile, attempts by the FCC to set long-range policy to ensure that America retains its historic technological lead in telecommunications are frustrated by rigid prohibitions in the decree and the inherently cumbersome mechanism by which they are administered. There is simply no way to coordinate the policies of the traditional regulators and the decree administrators. Indeed, the Department as the enforcer of an *antitrust* decree and the court as constrained by Article III are institutionally incapable of even considering many of the interests, such as national security and foreign trade, that the regulators may consider essential. And, worse, there is no one source of responsibility and accountability. As has often been said, too many cooks spoil the soup. And it will stay spoiled when there is no one cook to shoulder the blame.[32]

Quality of FCC Appointments

The telecommunications area is a complex one, calling for considerable expertise in specialized fields, which are not now and have not been generally represented in the FCC. The commission is regarded as a "political plum"; with enough political influence anyone can be appointed to the FCC. That is not true of the Federal Reserve Board or the SEC.

This then is a crucial problem: "As long as the selection of men for key administrative posts is based upon political reward rather than competency, little else that is done will really matter."[33] The president need not be concerned about independent agencies as long as there is no scandal. He is not helped politically by "even excellent administration of the commissions" and similarly is not hurt by a poor effort.[34] Because of this—because he is not held accountable for the performance of independent agencies—the president is under no pressure to appoint the best-qualified persons to these agencies. Such a political environment has not helped the stature of the executive agencies or the quality of their actions.

Overidentification with the Industry

The "political plum" process leads to a further critical defect—the agency member's overidentification with the industry. A number of factors contribute to this conclusion. First, if the president and the Congress are largely indifferent as to these agency appointments, the regulated industries are not. They watch closely the appointments to the agency and often successfully block appointment. This does not mean that the regulated industries necessarily choose agency personnel—only that potential "troublemakers" are largely screened out and at best a neutral person is appointed whose views cannot be predicted.

Second, a neutral person is assiduously courted by regulated industries. The appointee soon realizes, after coming to Washington, "that nobody ever heard of him or cares much what he does—except one group of very personable, reasonable, knowledgeable, delightful human beings, who recognize his true worth. Obviously, they might turn his head just a bit."[35]

Ronald Coase comes to the same conclusion:

> It is difficult to operate closely with an industry without coming to look at its problems in industry terms. The result is that the Commission, although thinking of itself as apart from and with different aims from the industry, will nonetheless be incapable of

> conceiving of or bringing about any radical changes in industry practices or structure. In fact, the regulation of the broadcasting industry by the Federal Communications Commission resembles a professional wrestling match. The grunts and groans resound through the land, but no permanent injury seems to result.[36]

Third, some agency members desire reappointment. Since the regulated industries are most interested in the appointment process, agency members know that if they take positions strongly at odds with these industries, their reappointment will be strongly opposed. This may well lead to the president choosing some new "neutral" figure. Indeed, at times the Senate has even refused to confirm one who has aroused industry opposition.

Finally, a large number of agency members expect to work for the regulated industries upon leaving the agency. This in turn can either consciously or subconsciously make the agency member (and staff) overly responsive or sympathetic to industry positions. This pattern of FCC identification with regulated industries has been repeated frequently.[37]

Principles

Before setting forth the principles governing revision of the policy process, one substantive action should be noted. The 1934 Act, derived from the 1910 ICC Act, needs to be revised to set forth broad policy guidelines, including the federal-state equation and the issue of open and fair entry into intra-LATA telecommunications. The Supreme Court has noted that there is an advantage in having a broad mandate like the "public interest" or "just and reasonable," since it permits the agency to adjust to changing conditions in these "dynamic" fields.[38] Over time, however, there is a need for broad substantive revision, and that time has certainly arrived.

The governing principles are:

- That it is not feasible to separate policymaking between international and domestic arenas, or between common carrier, broadcasting, cable television, and private radio. These areas are all integrally related, and should be treated together.
- That it is unsound to separate the authority to make broad policy or rules from actions implementing these policies or rules. While such

a split forces clearer guidelines, in these dynamic fields it is difficult to anticipate needed policies apart from decisions in particular cases.

- That it is most desirable to centralize policymaking in one agency. Divided authority causes delay, confusion, and the absence of focused responsibility. Whether located in the executive branch or an independent agency, there should be strong Congressional oversight and, for the most part, judicial review of agency actions.
- That only the executive branch can deal effectively with national security, foreign relations or trade issues in the telecommunications field, but that the executive branch should not be allowed to make or implement policy directly in the mass media field.

The Watergate experience points up the serious drawback if the executive branch controlled policymaking or implementation in the mass media field. The Nixon administration threatened to use the renewal process against the *Washington Post* and to induce the network affiliate to put pressure on the network to screen out antiadministration viewpoints.[39] Clearly no aspect of the licensing process or equal opportunities rulings under Section 315 should come under executive branch control.

Further, the formulation of rules or policies directly affecting the broadcasters, networks, or cable TV operators should also be excluded from executive branch purview. Networks and broadcasters can be crucially affected by a change in the multiple ownership rules or by a change in the prime-time access rule. The administrator could very substantially affect the financial returns of the networks; the networks would know this and would be operating "under the gun." Such a situation is not tolerable.

- That while the single administrator is most effective for executive branch activities in this field, the collegial system is suited to the promulgation and implementation of policy in the sensitive mass media field. The collegial body has the advantages of reflecting the viewpoints of several members; if the majority embarks upon a course raising constitutional or public interest questions, dissents can highlight the matter, bringing increased congressional or judicial scrutiny.

It would be necessary to delineate carefully the policy- or rule-making areas withdrawn from the purview of the executive branch single administrator (the adjudicatory activities are readily culled out from the administrator's authority). The government can and should include the mass media in *general* taxation schemes; it is wrong to single out the mass media for special revenue-raising taxes.[40] So also in this field, rules or policies of general applicability should be permissible.

Changing the Federal Policy Structure

First, a prestigious study commission, appointed by the president, would help to promote critically needed change. Telecommunications is a most difficult area in which to effect organizational change. Only a strong commission, similar to those in areas like social security and privacy, can afford the umbrella under which Congress might be persuaded to adopt new organizational structures or new substantive policies. Twenty years have passed since the 1968 Rostow Commission. A new study could help bring federal telecommunications policy into the next century.

As for courses of action to reform current practices, the following, based on the foregoing principles, are suggested:

Establish a Single Executive Branch Administrator, Housing an Independent Agency to Deal with Electronic Mass Media Matters. This would mean creating an agency—called the Federal Telecommunications Agency (FTA)—with a single administrator serving at the pleasure of the president and having centralized authority over all telecommunications matters. The only exception would be regulation directly concerning the electronic mass media, which could be handled by an independent agency (like the Federal Energy and Regulatory Commission (FERC)) and housed with the FTA, as FERC is with the Department of Energy. This would be the focal point for telecommunications policy: an executive branch agency with extensive power, able to deal effectively with foreign partners and to coordinate governmental policy. If the agency failed in its mission, the president would be responsible and would have to act. With such a body in place congressional committees would continue to exercise their oversight functions. The agency could use administrative law judges, review boards, informal or formal rulemaking proceedings, and other appropriate devices, but final decisions would rest with the administrator.

Create a Post for a Single Administrator Combining Present Executive Branch Functions but with Narrowly Circumscribed Power to Direct FCC Actions. In the absence of political will to create a new agency with the above centralized powers, the next organizational arrangement would be to combine all existing executive branch functions in the telecommunications policy area in an entity like the Environmental Protection Agency. This office would have full authority, subject to presidential override, to develop policies for the executive branch, to be the focal point for foreign and trade negotiations, and to handle all executive branch spectrum matters. Further, this entity, in coordination with other federal agencies, would be the focal point for securing a presidential finding that national security or foreign policy require the FCC to take a specific action (or, alternatively, to set aside an FCC action).

This arrangement would vastly improve policy centralization by obtaining a focal point of responsibility for telecommunications policy issues within the executive branch. Further, it would end the present anomalous situation where the President, despite the clear national security or foreign policy considerations, cannot direct a result.

Appoint a Presidential Assistant for Telecommunications. Were the above two proposals not acceptable, then a presidential assistant for telecommunications should be appointed, with authority to act for the president to insure proper coordination among relevant parties, to help formulate executive branch policy in this field, and to bring to the president those telecommunications issues warranting presidential consideration. At the least, a presidential assistant would ensure proper coordination and, when appropriate, presidential attention to telecommunications issues.

Improve FCC Appointments. The FCC will remain under any of these proposals. Therefore, it is important to improve the caliber of FCC appointments. A bipartisan, prestigious presidential commission might select five nominees for each vacancy, to be filled by the president. Commissioners should be given longer terms—perhaps ten years. A longer term would create a new mood both in the executive and legislative branches, since these appointments would have a tenure longer than the presidency. Congress, having enacted remedial legislation, would probably insist upon a caliber of appointment similar to that in the Federal Reserve Branch or SEC. Dean Landis has written cogently on this point:

> Tenure is of importance. A term of five or seven years is too short. If the appointee is a lawyer or in business, conflict of interest laws require him to sever all his past connections. To give up a practice patiently accumulated over the years is not easy, for it may well become necessary to spend years again in re-establishing it. To eliminate one-self from a place in the ascending ladder of a business organization raises similar problems. Moreover, longer tenures would mean opportunities for longer-scale planning, freedom from worry as to re-appointment, and generally the concept of devotion to a career rather than that of a stepping stone to further political or professional advancement. Turnover would probably be reduced as is true of members of the Federal Reserve Board whose tenures are fourteen years. Expertise would have a better chance to develop and the sense of security would inculcate the spirit of independence. Life tenure is, perhaps, too dangerous in these areas of dynamic activity but certainly a ten year term is not too much to suggest.

A further revision would bar employment in the communications field for a five-year period following FCC service. The five-year period would eliminate any chance, and thus influence, of using the commission as a stepping stone to lucrative communications industry or professional advancement.

We have drifted with the present patchwork policy structure too long. The information age, with its global competition, demands that we put our policy house in order.

The Public Interest and Telecommunications

Anthony Smith

There is a felt dimension of public interest in virtually all private concerns and actions: from smoking to the divorce and marriage laws, from literacy to child-care, we constantly find ourselves judging private actions and personal proclivities as if we were thinking for society as a whole. But when we say that a person is acting in or against the public interest or that a proposed governmental measure is "in the public interest" or that the operations of a commercial company represent a breach of "public interest," is there a real entity in our mind corresponding to this notion of a "public"? Where are we placing ourselves in relation to the rest of society and to our neighbors when we use the term?

These questions have become irksome, even urgent, in this era of worldwide deregulation, especially in the burgeoning fields of telecommunications and information technology, and quite suddenly, in historical terms, a number of familiar political issues have switched their emphasis. Where the main actors in a number of countries saw governmental intervention as the principal means for achieving a public benefit, they now tend almost as confidently to locate their trust in a revival of market forces and the interplay of individual motivation as a surer path to collective benefit. This is not merely the defense of the rights of private persons—it is a statement about the means to guarantee the general good.

This essay considers the way such arguments have been deployed in discussions about telecommunications policy and the context of inherited discourses concerning the public interest in the management of utilities. It will also look for the sine qua non of public interest in our late twentieth-century environment.

All human societies have ways to express generalized collective need. Each possesses an appropriate term to describe and account for its collective historic national, doctrinal or regional identity. The art and culture of each society contains in myth or legend representations of that collectivity, often linked with its religious belief. In western culture this "public" sphere is felt as something of an aberration, something less than or added to the society; we see rights and obligations as primarily based upon individuals and their families.

There are countless versions of the public sphere and diverse ways of expressing and envisaging it; in our own time we have experienced many movements which endeavor to create new contexts for the expression of the collective needs and goals of large territorial groups.

Every historical age creates new kinds of political emotions and finds appropriate ways to represent the interests of large groups. The terminology which emerges expresses the pursuit of mutual benefit through collective sacrifice and altruism. When we of the West speak of the public interest we are, half-consciously, groping for a way of referring to something highly valued, a telos or collective good normally standing in opposition to or above other legitimate demands and interests. We acknowledge the potential of intangible ways in which our lives may be enhanced; we recognize the presence of a public sphere which does not correspond to the mere aggregation of the desires of living individuals.

Western society has also accorded high value to individual economic activity. When we speak of the public interest in a Western context we are also attempting to reassert a dimension of the collective within a culture of individualism. The term public interest contains a natural conflict between individual and collective goods, between the strivings of people for their own betterment and the social benefit which might ensue from a partial or temporary denial of self-gain.

There are diverse meanings for "public interest" in the context of any single society. One special form of public interest is entailed in projects designed to protect individuals against harms which are invisible to the victim. Environmental pollution is the characteristic contemporary example; it entails denying the economic rights or opportunities of individuals and companies in favor of the health interests of everyone. Not everyone benefits immediately, but all benefit in the longer run by surviving. Yet there are losers in the achievement even of this particular form of public interest. There is a limit to the economic freedom accorded to individuals beyond which the good of all has to take precedence. None of us wants to drink polluted water. None of us wants to suffer the consequences of a depleted ozone layer, even though we may disagree as to the immediacy of any present danger. Where human beings have to work together to preserve their very society or to protect their health a strong and very fundamental sense of public interest comes into operation. In general, the retreat from governmental regulation has affected such crucial aspects of society.

A weaker, but still important, form of public interest characterizes long-term collective benefits. While most people agree that a society enjoying universal education is superior to one which does not, not everyone agrees to contribute to the cost of achieving it immediately. Universal education therefore enjoys weaker, though still widespread, support as a public good: it is achieved not by universal acclamation, but by coercing a minority. Over the course of time society as a whole values universal education.

There are many instances of public interest discourse of this kind, pursued in politics through long periods of public debate and persuasion. They do not express survival needs but are desirable objectives in societies which have passed through a certain political evolution. German and Italian cities and states developed sophisticated requirements for opera, theatre and art galleries, at a time when Britain and the United States continued to regard these entirely as matters for private commerce. Societies acquire a certain view of cultural activity and of the public interest before providing arts facilities comes to seem a proper function for the state to undertake.

In the course of history society continually reinterprets these inherited debates about the nature of the public and its "interest." In fields as diverse as transportation, communications, education, public health, care of the deprived and provision for the arts, Western societies have expanded and contracted notions of public interest. Gradually, the state has come to accept responsibilities assigned to the "public," whether directly operating a necessary service, regulating its operations within the private sector or merely facilitating national policy. In this century a vast proportion of economic activity in Western societies—irrespective of whether they are formally wedded to utilitarian or socialist doctrine—has been swept into public discourse, if not into direct state ownership.

Today, however, each society is beginning to reconsider public interest arguments fundamentally, sometimes to unravel them or turn them on their head. People have come to question whether the collectivity of individuals benefits by meeting needs collectively. The discourse of public interest, leading to ownership or regulation, is being replaced by a discourse of consumerism. If society is conceived as overlapping groups of service providers and service recipients, divided not by class or rank but by infinite lines of responsibility, then the nature of the "public" shifts accordingly. All the users of public services from defense and education to transport and medical care can be conceived as consumers, and we are all consumers. An important shift is taking place in the Western concept of the public.

For example, a public interest argument has long favored municipal transport to ensure that people at all income levels enjoy cheap and reliable transport—an argument for welfare interests and economic health. The reverse argument, still a public interest argument, suggests that the same individuals would benefit more from the presence of a market-based, nonregulated transport system in which private companies offer reduced fares and improved service. Both versions of the argument intone public interest positions as examples of the weaker public interest position—the one most susceptible to the contemporary shift from "public service" to "consumer satisfaction" thinking.

Regulatory Arguments and Political Theories

The field of telecommunications demonstrates the ambiguity and tension between these two kinds of public interest arguments. Telephone service is a better service, financially and socially, when more individuals have access to telephones. Universal service has therefore long been a key policy in telephone administrations, whether privately or state-owned. Thus, one interpretation of public interest can lead to the establishment of state-run or state-regulated companies.

However, new telecommunications technologies have led to a different view of service provision and availability. This view suggests that the process of developing new services is accelerated not simply through the pursuit of universality, but by encouraging equipment suppliers and individual subscribers to choose among equipment and between innovative adjuncts to the basic service. Here, industrial need conflicts with one version of pure consumer interest. So crucial is new information technology to the wider process of retooling and computerizing Western economies that great governmental pressure has been brought to bear upon corporations to ensure that they compete vigorously and innovatively. Government thus invokes a new kind of public good which reverses its previous logic. The new public good is economic: we all benefit from living in a modern, competitive economy and the benefit we gain from a free market is greater than our gain from welfare economy. To achieve the new public interest, we must coerce the minority whose economic interest (as suppliers or consumers) is better satisfied through the welfare system. Subscribers may have to acquire their own instruments where previously they were supplied as part of service, but they now have access to a diverse and complex array of instruments.

Telecommunications in all its forms gives rise to issues of this kind. This is partly because one of the necessary prerequisites for establishing the earliest telecommunicated services—the telegraph—was the existence of the state. Telecommunications became a very early theater for rehearsing modern arguments concerning public interest and social equity. The administration of telecommunications became inseparable from the administration of defense and land-use planning and equally inseparable from general debates about how to regulate markets and the nature of "natural monopolies." The history of the telegraph and its offspring is a commentary on the history of modern ideas about the nature of the public interest.

Today we are witnessing a considerable change in prevailing social theory about the role of the state in industrial society. The era knows itself as an age of deregulation, aided by a widespread reinstatement of liberal economic theory. John Stuart Mill and the utilitarians have resurfaced in political rhetoric and business speeches: "People understand their own business and their own interests better, and care for them more, than the government does, or can be expected to do," according to Mill.[1] This view is deeply rooted, emerging from Mill's beliefs about the nature of individual autonomy: "There is a part of the life of every person who has come to years of discretion, within which the individuality of that person ought to reign uncontrolled either by any other person or by the public collectively."[2]

Individualist economic theories borrow their inspiration most directly from the perfectionist views of Victorian liberalism—parallels of expression are uncannily consonant with the deregulators of the 1980s. "The mass of adults are so well acquainted with their own interests and so much disposed to pursue them that no compulsion or restraint put upon them by others for the purpose of promoting their interest can really promote them," sounds off James Fitzjames Stephen in 1873.[3] But present-day movements are far more than political antiquarianism, more than the passionate echoes of an easier world; it would be wrong to assume that these ideas are actually the ones driving forward the changes in telecommunications. The new thinking about telecommunications and the revival of liberal economic theory are synergetic but coincidental.

The deregulatory movement in telecommunications is derived from the sheer material necessities of new information technology as it begins to affect networks and switching systems and new ways to distribute and store signals. With ever-changing technologies, however, the reorganization of the telecommunications industry has become a continuous process with no particular end in sight. It is undertaken in the context of arguments about the public interest as much as of new ways to accumulate corporate profit. In the United States two agencies, the Department of Justice and the Federal Communications Commission, have embarked upon two concurrent crusades: on the one hand, to keep competition open and untrammeled by the fusion of diverse interests within a single corporation, and on the other hand, to regulate public airways in the interests of diversity.

Behind these policies are structural political motives as much as a drive to profit. American telecommunications deregulation is centered on the goal of ensuring a technically dynamic industry; deregulation is a means to this end as much as an ideological objective. Deregulation, the removal of government from management, takes place alongside a different kind of antimonopolistic government regulation. Britain has witnessed a similar fusion of ideology with new industrial practice. In both countries we see ironies in the confluence of liberal economic thinking with the pursuit of wider industrial objectives.

Are these attempts to emphasize the private sector in the public interest? Radio and television have been in many ways the anvil on which modern attitudes to old questions of public interest have been hammered. Both European social democratic and conservative thought, as well as American political debate, have been profoundly influenced by arguments over where sectoral divisions between governmental and private spheres should lie in broadcasting. Arguably, the welfare dimension of an activity can never really be removed. Even when radio and television function in a deregulated market, a residue of public interest discourse still clings to them. There remains a possibility that the state will one day revert to a form of resource allocation. Deregulated utilities seldom or never acquire the independent status of companies which have never been subject to public regulation.

The process of deregulation is a very different historical project from the process of regulation since deregulation can lead, ironically, to greater state presence, more constant vigilance and more powerful bureaucracy than in the liberal public interest society which gave rise to regulation or overregulation. This is why it is important to understand the industrial rather than the doctrinal exigencies which lie behind the round of regulatory changes of the 1970s and 1980s. We share an image of the unimpeded flow of information as among the highest of ideological goals, but in different phases of economic and industrial growth that goal is subject to different forms of implementation—and acquires an ever-altering moral status.

Since the development of the penny press in the 1870s, Europeans and Americans alike have viewed the information media with optimism. The information media were to help the evolutionary process from *Gesellschaft* to *Gemeinschaft*—from a society of loosely anchored, anomic individuals, prey to every lurking propagandist, toward a communitarian society of informed individuals. Robert E. Park journeyed to Germany before World War I to learn from students of *Zeitungswissenschaft*, the "newspaper science" which filled the minds of many Europeans with late Victorian intellectual optimism. The press had reached a stage in technical advance and industrial organization which rendered it a new tool of social engineering; the new society had to use this instrument collectively to achieve more than personalistic benefits. Information could join personal freedom and social responsibility. It could fill the gap left between philosophical liberalism and the new sociology.

However, when media industries became corporations and began to weave webs of accumulating capital from which the media of today have grown, their mode of operation belied prophecies that they would become a tool of social betterment. In 1960 Walter Lippmann phrased this difference quite aptly: "We must not forget that the economic interest of the companies, which require bigger audiences for bigger revenues, is against any serious or lasting effort to use television for its higher possibilities."[4] The expressive function of the press took precedence over its referential function: emotion, not intellect, predominated in the modern modes for communicating ideas. In France Gabriel Tarde and Gustave Le Bon pioneered their influential views about the excitability and manipulability of crowds by demagogic speakers who could play upon the tendency of people gathered in large numbers toward mutual imitation. In Italy, too, the criminologist Scipio Sighele saw the modern crowd as vulnerable to the criminal mind.[5] Sociology in the period from 1900 to 1920 expressed a growing social disillusion which later came to characterize the whole of the human sciences. The disillusion centered on cinema and the press, whose operations during the war seemed to confirm the most passionate of the social pessimists. Crowd psychologists, with their strictures on the excitability of the modern urban crowd, seemed to have won their argument, judged by the evidence of the years of total war.[6]

Walter Lippmann, in some ways an American counterpart of these European writers, had experimented with these notions transmuted through the ideas of Cooley and Dewey. They all emphasized the organic nature of society, trying to see how individuals became socialized rather than how they exercised the individual freedoms conferred by society. They discovered a relationship between individual and society which was modulated by the media. Mechanically created flows of information held self and society in a single grasp and seemed to facilitate social continuities rather than the static wants and needs of individuals.[7]

When Lippmann revisited these issues in the television age, he reverted to these older conceptions: "Because of the discrepancy between the People as voters and the People as the corporate nation, the voters have no title to consider themselves the proprietors of the commonwealth and to claim that their interests are identical with the public interest."[8] For Lippmann "the people" were an organic entity composed of those not yet born and those already dead. Society was therefore obliged to pursue the interests of the future generations as well as the present: "this invisible, inaudible, and so largely nonexistent community gives rational meaning to the necessary objectives of government." Lippmann took issue with Bentham's view of society that "the interest of the community then is, what?—the sum of the interests of the several members who compose it." "The people" is not the aggregate of living persons who vote to serve "their pleasures and their security," and society is not simply the place where factions contend for immediate advantage in the struggle for survival and domination.

In the first decade of television American thinking was suffused with notions of this organic public interest in which information media played a facilitating role. Television did not exist only to gratify immediate needs, but to help the whole process of historical evolution. The creation of a public television service (using spectrum allocations specially set aside by the Federal Communications Commission a decade before) expressed this view of society within American media politics. Later, this view would become tarnished with the jibe of paternalism. It was suspect for social manipulation, for socialism, even for Luddism. Nonetheless, the pressure for openness within the operations of the FCC itself and for the extension of cash and spectrum opportunities for public television were remnants of an extinct but coherent view of society, one which gave space for the interposition of a public interest in the workings of private media capital.

Today, some of these strands of thought survive, but in a society determined to alter the terms by which public and private interests define their roles within the economy. A great curtain of suspicion shrouds the workings of public monopolies. The focus of disillusion is not human nature, which had so let down the sociologists of an earlier generation, but governmental administration systems. Perhaps we ceased to be content to allow official utilities regulators to gather more centralizing power, and we have found no fresh device, no new form of regulation, other than through the interposition of the market. This disillusionment with regulation is itself driven by the search for public interest. In many societies of the developed world, we have turned to private pursuit of gain to redress a balance which has been found wanting.

Many, however, are the new demands made today upon the idea of public interest by new international and continental authorities as well as all manner of national and regional institutions of government, and considerable confusion arises. The "public" no longer necessarily inhabits the same society as the speaker. In an internationalized society, it is therefore not easy to determine the legitimating judge of interests (public or private) or by what instrument either interest is to be safeguarded. The matters at stake are not necessarily elemental issues of ecology, but problems of industrial standardization, transportation planning, and advertising codes.

Traversing Borders and Ideologies

A risible but somewhat typical example of the complexity of the public interest issue in this era is to be found in the story of the Europlug. The twelve countries of the European Economic Community have developed a new two-prong electric plug. It is slightly wider than the plugs used in France and Germany, which, although slightly different from each other, are generally found mutually compatible. The new Europlug corresponds to no standard currently in use, but the establishment of a single cheap, safe, Continent-wide (or EEC-wide) device would enable a kettle bought in Hamburg to make tea in London. What is more, it would make it possible for all the electrical goods of the twelve countries to be manufactured with plugs already attached —with great consumer and safety benefits. But if the Europlug had been designed within the existing standard of any one country it would advantage the manufacturers of that country over all others. It has therefore been necessary to choose a design which no one presently uses, so that the new implement will leave everyone equally disadvantaged. This would mean that every member country will have to retool and refit.

There is also a Worldplug project, an international worldwide standard plug emerging concurrently from another set of committees. It is not compatible with the Europlug. If the Europeans are to be real citizens of the world they might, it could be argued, decide to be the first to adopt the Worldplug while abandoning their national plugs. But their main project for the present time is to establish their European identity and therefore to construct a kind of electrical autarchy in Western Europe, with a view to hindering Japanese and American goods seeking European markets.

The Europlug problem reflects an inextricable intertwining of industrial, social, political, and economic objectives. From one perspective the problem is one of identity. It illustrates the loss of clearly visible symbols of public interest, but also of the very objectives of public interest. The plug problem will ultimately be resolved after armies of bureaucrats and politicians have worked for years to disentangle the skein, but only then as a result of trade-offs and deals in a dozen other spheres.

In the miasma the theorists of the last three centuries would all find remnants of all of their theories, somewhere at work. (They would not agree precisely where.) At one end of a spectrum of ideas and beliefs would be the purest of libertarians, recommending that all industrialists compete until the best and most serviceable standard plug emerges. At the other end would be the planners, arguing that the plug problem is solvable and that plugs are inherently perfectible, given fully representative committees and sufficient time. They would say that within each individual and each society involved there exists a "best" version of the self—that version that strives to serve rather than to possess, which, given the proper opportunity, would produce a safe, improved and internationally acceptable plug. One version of the public interest argument finds its fulfillment in the free play of the ego; the other demands free movement of the superego.

Within the context of the classic nineteenth-century nation-state this range of issues was containable. In the context of modern multinational and continental half-loyalties solutions are harder to find, and no simple electoral structure exists to marshal and contain the debate. Now, when new sources of identity are evolving under the aegis of supranational bodies, ends and means are confused. New institutions (the EEC, for example) are meaningful only through an accumulation of agreements over specific matters; conversely, they are in danger of collapse if they fail to construct them.

The history of telecommunications is replete with examples of dilemmas of the "plug" kind—witness decisions taken in America, Europe, and the Soviet Union concerning line-standards for television, the grand quarrel of the 1950s and 1960s over color television, and present-day melodramas over the choice of modulation methods for satellite broadcasting. The interplay of motives and interests is backed by the interplay of implied doctrine and can be subsumed in the language of technique and technicality.

We are also confronting an underlying and new techno-industrial logic, a pattern of industrially necessary interconnections which partly challenge and partly support doctrinal and motivational patterns. Telecommunications systems have natural "yearnings" for interconnection of all kinds. They are evolving from a uniform centralized network to a more open polycentered pattern described by Eli Noam in this volume. An exchange of functions between federal and state levels of government in the United States mirrors, but in reverse, the European shiftings of function between Brussels and the twelve member capitals of the EEC. The technology itself appears almost autonomously to demand that its whole interconnective capacity be reformulated into decentralized networks—a technological counterpart to political pluralism. However, such a change requires an extremely centralized and determined government to put it into effect. Here, then, is the paradox: a new economic pluralism requires a tremendous central power to drive it onward and overcome the powerful inertia of existing interests.

The widespread privatization of state-owned or state-operated utilities reflects similar contradictions and tensions. It is at once an expression of centralizing state authority and of a pluralist, consumerist impetus. Newly released, more freely moving capital is the engine to retool industry, but it also alters our concepts of society and social value. This phenomenon is beginning to affect socialist as well as capitalist countries, defying the traditional boundaries between nations, empires, and continents. In a sense ideology is replacing territory as the locus of patriotism. Our compatriots have become those who most deeply share our convictions.

In industrial society the debate about the proper role of government in production and in the protection of workers and consumers, has been a dominant political debate. Only in an age of advanced telecommunications have prevailing debates significantly shifted terrain. A century-long evolution of governmental regulation and control in public utilities has been reversed with the revival of older strands of liberal economic thinking.

The vocabulary of public interest inhabits all sides of the arguments over the role of the state in communications. In the last century economic liberals marked out the marketplace but realized that various brakes and barriers were necessary to protect individuals against the success of others, safeguards against excess. Gradually, safeguards overtook the market machinery. When broadcasting arrived in the 1920s the climate was ripe for many varieties of statist thinking and a newly trained postwar managerial elite was anxious to experiment with new political and organizational ideas, especially in a field so potentially powerful for mass education.

Today's economic liberalism has returned to its starting point, but with significantly different values. Where nineteenth-century pioneers treated the open market as a valuable means to acquire societal benefits, modern economic liberals see the untrammeled market as an end in itself—a tangible shift from a deontological to a teleological view of market forces. If history serves as a guide, this may be only a phase in political development. Victorian England at one point envisioned a private capital stage followed by a publicly owned mature industry for trains and telegraph. The railways and telegraph of the mid-nineteenth century helped to establish the thriving capital market: entrepreneurs petitioned Parliament to legislate the necessary systems of wayleaves for communication and transportation networks to develop. But these laws envisaged a time when the franchises would be called in, and a national or nationalized railway and telegraphic system would emerge. Today, in the British-French Channel Tunnel, a project of comparable scale funded by corporations but subject to national legislation in two countries, a similar rubric is being employed. Private entrepreneurs are given a period of years to develop their investment, after which the state will intervene again. Television and radio franchises in Britain function in a similar manner: the rights of capital are limited in time. The state, like a landlord, grants short-term opportunities to enter the marketplace.

The regulatory systems of the industrial revolution were deeply embedded in contemporary thinking about national development. The public lived within national borders, subject to national jurisdiction; its interests were visible rather than abstract. The electromagnetic spectrum, by its nature, helped develop consciousness of an international public interest, expressed at first through the International Telegraphic Union. The United States, because of its size, location, and the dynamism of its growth, did not feel the presence of the ITU as a structuring force in its national planning and decision-making as profoundly as many European states. Only the era of satellites and the scarcity of slots in the geostationary orbit have brought the United States to recognize the tensions and conflicts contained within the ITU. Crowded Europe has had greater collective need for careful spectrum organization, a need which transcends the political divisions of socialism and capitalism. Today we are seeing the first attempts to knit together the regulatory processes of the twelve countries of the EEC so that the community can compete in the global marketplace in equipment production and in the provision of value-added services. In telecommunications the twelve have been identifying areas in which conceptual and juridical barriers to the free exchange of services will have to be removed.

Despite the relative homogeneity of thinking about broadcasting in Western Europe, complicated problems remain. For example, each country has devised its own system for supervising the content of advertisements—a few countries still ban television and radio advertising altogether, although such prohibitions are unlikely to survive very long. The control of advertising reaches the sensitive heart of public interest concerns, and it has been difficult to devise a lowest-common-denominator approach to this problem. Europe will thus be left with an intensively regulated but unified system to supervise the content of advertisements in channels which are sent out across national boundaries by intent (Europe has long learned to survive the transmission of television signals which cross frontiers accidentally).

Unification is more difficult in the area of program content. Sweden, for example, will not permit the representation of violence in its programs, especially programs for children, but it takes a more permissive view, compared with the rest of Europe, of the representation of sexual activity. In Britain legal constraints on the representation of explicit sexuality have grown steadily in response to vocal special interest groups. Statutory censorship of videos has been introduced, and this has been followed by the establishment of a Broadcasting Standards Council to develop "codes" of taste in matters of sex and violence, perhaps even in the news. These institutions have been added to existing bodies concerned with such matters. Similarly, cinema is increasingly vigilant in meeting age-range certification. We are thus witnessing a strongly regulatory climate in those areas affecting morals, while the economy moves toward deregulation. At this point of apparent contradiction the "new" public interest discourse meets its greatest tests, with neither experience nor shared logic to arbitrate disputes.

It seems to many in the film and television industries that government is trying to move in two opposite directions at the same time. It will take negotiation and legislation to resolve these tensions. What will emerge—by necessity—is a new definition of how to represent the public interest at the point of program production.

The interests of the public are no longer necessarily the interests of the nation. The deregulation of European telecommunications has been conducted partly to stimulate an effective indigenous industry and thus guarantee the continued existence of jobs (and investments) that might otherwise be undercut by more vigorous competitors outside the Continent. The threat of Japanese takeover made all governments realize that the information revolution had to be seized as a moment for self-reform. It was, moreover, a need felt by all societies of Western Europe, a continental cause. It was already clear that no national economy can think of itself solely within its historical, geographical borders. International competition is forcing an international division of labor and a search for rationalized, reinvigorated markets. The nation-state, once a source of emotional and economic refuge, is now often a hindrance. The logic of labor and markets is substituting economic interest for national identity, leaving future generations to create new meanings for individuals and societies alike.

Across the spectrum of opinion regarding public interest lies a shadow of ambiguity and contradiction. Philosophers and political theorists have lost the sense of where to find the public interest—in the market or in the enlightened state. Business sees it buried in the historic rights of free enterprise and market freedom. Politicians and civil servants are apt to be more sensitive to the needs of deprived groups, and to the painful process of changing public expectations from welfare-thinking to free market competition.

The drive fueling deregulation in Britain and America is a powerful doctrine in which society seems to function as a subset of the economy. Ownership may be social, but it is by way of stockholding; industry is to be self-supervising; official supervision is to be effective but minimal. It is difficult to observe the ways in which telecommunications as an industry demands or necessitates this attitude or ideology and conversely, the extent to which historical accident is now shaping these important industries.

Future historians, peering through many layers of public policy and attitudes, may live in societies in which a smaller state structure exercises powers more extensive and intrusive than those which prevailed during the era of "big government." The new wave of economic liberalism does not function in the context of an industrial competitiveness which it defends and upholds; rather, it struggles to create the conditions of competition which correspond to its doctrinal predilection. An unfinished debate continues among American policymakers as to whether the successor group of companies to the reorganized, divested AT&T are "competitive" in the predetermined sense. The FCC can never be certain it has created a "natural" market or whether, like a piece of clockwork machinery, that market has to be wound up again every few years by a regulated reconstruction of the industry.

To carry this kind of responsibility, regulatory agencies have to undertake more than was once envisaged for them. They can no longer act as an usher to the economy. The Department of Justice and the FCC have to delve deeply into corporate pricing structures, investment initiatives, industrial alliances, and research and development practices. Paradoxically, American agencies have greater power over deregulated American corporations than the average Western European government enjoys over its nationalized PTT. Deregulation may aim for smaller government, but often with greater powers and more interfering habits.

It is worth recalling the situation of the 1920s, when broadcasting had finally become an industry in its own right after a decade or two largely as a military tool. Radio provided the archetypal example of the interwar industrial economy, exemplifying the prevailing doctrines then governing state-versus-industry practice. In Britain the Post Office (which controlled the telephone and the radio regulatory system) was among the first organizations to adopt modern management techniques. In establishing the British Broadcasting Company (as it was known at first) the Post Office and radio pioneers saw themselves providing a grand rehearsal for new industrial organizational methods. Government in the early 1920s concerned itself with spectrum regulation; it decided which companies were to participate in radio, oversaw technical standards, and decided how much the listener had to pay. But the BBC rapidly established itself as the first of a generation of nationalized monopolies which gradually took over a large proportion of the industrial manufacturing economy. The BBC (soon reorganized as the British Broadcasting Corporation) painfully created for itself an area of editorial independence (never complete, never sufficient) in response to an open, permissive governmental license. The relationship has remained uneasy and somewhat experimental:

nonetheless, the two sides learned slowly to remain within their allocated spheres of authority—the government accepting in time that the monopoly broadcaster had to be left in substantial editorial control, within parameters which were constantly reviewed by Parliament, and subject to periodic eruptions of anger on the part of successive governments. The institutions of broadcasting gained satisfactory independence at the cost of constant public investigation, reform, and reorganization.

In the United States the 1927 Radio Act similarly defined the point at which the technical exigencies of broadcasting, the necessary avoidance of signal interference and the establishment of appropriate content controls intersected. The act specifically forbade the licensing authority (then the Federal Radio Commission) from interfering with free speech, although it also stated that "no person within the jurisdiction of the United States shall utter any obscene, indecent or profane language by means of radio communication." Furthermore, pioneer entrepreneurs had to be constrained in respect of the amounts of spectrum they used and the power of their transmitters. A "chaos of the airwaves" had already developed, caused by the unconstrained greed of the early practitioners of radio. Secretary of Commerce Herbert Hoover articulated the doctrinal dilemma posed by radio between general public benefit and private enterprise: the 1927 Radio Act established the role of American radio station as "trustee" of the public interest. The formula of "public interest, convenience, necessity" which the act employed to express the objectives of this public stewardship was borrowed from public utility legislation. Its vagueness left scope for half a century more of debate.

The looming presence of the First Amendment provided a bedrock for free expression in broadcasting in the United States but did not preclude debates about the proper uses of radio and television. Editorial authority, however, lay firmly in the hands of industry entrepreneurs. As the industry expanded, tension developed between private corporations, government regulatory authority and growing linkages between the two. As the BBC became the prototypical nationalized British industry, the FCC experimented with a new kind of relationship between government and industry in the United States. The 1934 Communications Act reflects a greater inclination of American government to intervene in the economy to support the public interest. While the 1927 Radio Act evidenced the relationships between government and industry established during the war, the 1934 Communications Act was the offspring of the New Deal.

The public interest dimension in broadcasting was supported by policies affecting news and public affairs programs and programs designed for children. These came to encompass, most prominently, fairness and equal time for advocates of opposing views. But from the publication of the 1946 Blue Book—a reasoned expression of official programming policy—to the more complex attempts in 1960s to introduce a "right of reply" to advertisements, the industry vigorously argued that all such rules interfered with the First Amendment rights of broadcasters. There is thus a permanent tension in American broadcasting between what might be labeled constitutional and "public interest" positions. A solid constituency developed for reducing the freedom of network controllers in the interest of a socially caring commitment and lobbying for protection of children against excessive advertising and the portrayal of violence; for more obligatory local program origination and unpaid public service announcements; and for news at prime time. Many battles were won, if only temporarily, but a new mood of competitiveness, with increased intra-industry competition brought about by cable and satellite channels, gave economic impetus to efforts to abolish the doctrines which most interfered with network freedom. Until PBS was established by the Johnson administration, America had no European-style public television, although private and not-for-profit institutions acted as counterparts to public interest institutions.

While most observers of television have emphasized the contrasts between American and European approaches to broadcast regulation, their similarities are striking. Producers could and did move fairly easily between these systems, although it would have been virtually impossible for a Western producer to work within the culture of Soviet or Latin American radio and television. The television cultures of America and Western Europe in the 1950s, 1960s and 1970s derived a great deal from the organizational structures and systems of broadcasting established before the war. Europe had powerfully established national institutions, some of them in competition, others monopolistic; America evolved three immense networks drawn from hundreds of licensed local stations, each operating under precise rubrics demanding interventionist guarantees for the public interest.

In both cases the "public" was seen as a passive, undifferentiated mass. Only in the 1970s and 1980s did fresh doctrines and institutional structures emerge. The supplying corporations were few in number. The audience was seen and described and analyzed as a "mass" audience; the "public interest" at work in radio and television was expressed through society, functioning as voters rather than as viewers. Policy was evolved through the democratic interplay of parties and formal public periodic committees of inquiry. Viewers were to be protected from excessive violence, misleading advertising, and biased news coverage—all to preserve the structures of democratic society. Members of society existed, in effect, in two separate manifestations: they were viewers and listeners, part of the passive mass audience; but they were also citizens, members of a public whose interest lay in preserving and protecting cultural and social forms.

In the debate over how to establish cultural institutions based on telecommunications, Western societies have experimented with interim solutions to problems posed by the heritage of nineteenth-century liberalism. In radio and television private and public sectors are interdependent, with responsibilities divided differently among industries and institutions at various stages of development. Only in the face of fundamentally different political doctrines or ideologies have truly different broadcasting cultures developed. In the 1980s a project to "harmonize" broadcast regulations in Europe has been started and has brought out clearly the ways in which national differences in existing regulations emanate from national differences in culture and religious heritage. France, Britain, and Scandinavia all differ in their approach, for example, to the representation of nudity, sexuality, violence, and political debate.

The public interest has been similarly ideology-bound in the area of common carrier telecommunication services. Until the breakup of AT&T America enjoyed a publicly supervised but privately capitalized monopoly which was obliged to offer certain prescribed standards of service. European PTTs based their telecommunications services inside traditional postal organizations which can trace their institutional ethos to the message systems of the Holy Roman Empire. Message sending and signaling by electronic means felt like different approaches to the same activity and maintaining equitable and reliable standards for Europeans has always seemed hard to separate from public control. The most stressed public good has been universality and equality of service; monopoly has been judged essential to achieve it.

At the height of its power the British Post Office could and did place orders for equipment on a scale which determined the survival of vast industries. Officials—essentially part of the civil service rather than members of an industry—exercised powers remote from both parliamentary scrutiny and market control. The separation of telecommunications from the postal service and its eventual privatization in a partially competitive marketplace seemed the only way for a sense of the public interest to be represented in this zone of extreme and unpoliced private power.

While state postal and telecommunications monopolies in Europe began to disappear in the 1980s, the goal of universal popular access to modernized instruments and services at competitive prices remained. An accidental synergy developed between the process of market modernization and the advent of a powerful new political right in British politics. However, the sheer political determination and radicalizing energy which lay behind the privatizing of British Telecom required the grit which ideological commitment alone could provide. One can only speculate about the course of British politics and economics had a different faction of the Conservative party triumphed in the 1978 election.

Skeptics note that British Telecom retains a vast geographical quasi-monopoly, subject to a certain amount of competition; it is no longer the sole supplier and manufacturer of terminal equipment and is certainly subject to the vigilant scrutiny of the Office of Telecommunications, but it is still a unified national body controlling networks in telephone, telex, facsimile, radio, and television, as well as much transmission, videotex, and data links. Strictly speaking, it is no longer a monopoly, but in its geographical totality and industrial muscle it remains one of the largest enterprises operating under a single board anywhere in Europe. One ideological turnabout at a future general election and it could be renationalized without immediate, apparent difference.

Interests and Culture

Despite the contrasts and occasional elegance of recent economic debates, many continuities of thinking are still at work in defining public policy. The goal of the "natural" marketplace has been pursued at each stage in the evolution of liberal thought. In the 1980s a new breed of politicians in free economies are again willing to articulate an older strand of market ideas, which they feel to be purely derived from the spirit of Adam Smith. In the Reagan era FCC chairmen have defined the public interest as "that which interests the public"—suggesting by implication that only in the free choice of channels and programs can the ideal be achieved. The Peacock Report on the pricing of broadcast services in Britain offered a similar process of analysis, ultimately declaring that regulation could be shed and substituted by a pay-per-view system.[9] This goal could only be reached when the supply of telecommunications channels was so plentiful as to be analogous to the free availability of paper in publishing. Technology can render spectrum scarcity a thing of the past, a brief historical interruption. It will create an open market for cultural goods; by extension, in this thinking, the purpose of governments is to encourage such development to render institutions like the BBC or other commercial broadcasting regulatory bodies unnecessary.

However, this outcrop of free-market thinking is less radical innovation than an attempt to harken back to a society in which complex problems were more easily solved. Such thinking is almost consciously archaistic in its expression, a return to a language which could be spoken plainly and understood, rejecting the kind of big bureaucracy technologized socialism that big government wrapped in public service terminology. Perhaps the language for describing the doctrinal shift has been poorly chosen. Current deregulatory thinking points to reorganization of enterprises, not an extension of competition or accountability through the market. In the 1970s, with the development of international enterprise and the presence of powerful labor organizations in many countries, reorganization in production and regulation was impossible. By deregulating, and selling state-owned enterprises, reorganization and reconstruction seemed possible. The direct consumer benefits of competition are apparent but trivial, and sometimes negative. Reorganization seems to have encouraged the entry of fresh capital into institutions which had previously tended to deter the investor. Telecommunications retooling has enlarged financial institutions participation. At the same time we are now seeing a reorganizing of the labor force geographically and industrially.

New functions and new services have emerged from the computerized reorganization of the financial services industry. In the computer era capital can be written off through rapid obsolescence of modern equipment at a faster rate than in mechanical and extractive industries. Different industries requiring different forms of state regulation play central roles within the economy. Older industries have become peripheral and new communications-related industries have become the new commanding heights of the economies of the West.

While this far-reaching and complicated economic project was possible only with state direction, the essential reorganization had to occur in the private economy. Hence the paradox of deregulatory policies which leave the state with greater relative power over private industries than before.

The present transformation may be a phase rather than a destination. One should recall that the evolution toward the civil rights of disenfranchised groups was a main theme of the "new politics" of the previous two decades. It continues to flourish beneath the 1980s reversion to free market theory as a dominant theme of politics. There was in the 1960s and 1970s a strong return to a sense of human rights as against material acquisition; there were and are articulate environmental politicians; the movement for women's rights found its way into mainstream political fora; community movements and workers' control pressure groups were functioning throughout the OECD countries. In some senses the public interest was seen to lie at the point of confluence of a host of newly emergent political causes and forces, some of which, in European countries, are today included as national parties (usually "green" in ideology). We may see in the next generation a new synthesis of free-market thinking with the green, feminist, civil rights and ethnic minority thinking which established themselves in 1970s politics.

Rights and Policies

Within liberal theory the pendulum has swung between two juxtaposed views of human rights and public interest. On the one hand, John Locke and Jeremy Bentham saw property as a natural right and an emanation of individual autonomy; for them the maximization of possessions (and possessiveness itself) were the bedrock of freedom in liberal society. In contrast, Thomas Paine, John Stuart Mill, and the writers of the American Constitution all set the atomic individual slightly to one side and built their view of liberal society upon aggregated benefit more than upon individual natural rights. The shock of the experience of industrial society forced the establishment of a welfare state not merely in the interests of those at the bottom of the ladder, but in the name of a shared general public interest.

Now that the perils and injustices of early capitalism are eradicated, present-day free market theorists see the pendulum swinging back toward individualism. Perhaps the swing between individualistic and collectivist thought reflects a special corrective mechanism in the evolution of liberal society.

At one level all government telecommunications policies, plans, and purposes manifest the public interest. In the public interest, private interests are given the opportunity to invest and compete in new technologies. In the public interest, a large section of the spectrum is reserved for military use. In the public interest, common carrier content rules are imposed—and so is the removal of that very regulatory apparatus. In the past public interest was defined in terms of prohibitions. Today, it has been redefined in terms of permissions: permissions for common carriers to offer voice, data, and images and for broadcasters to offer message systems; permissions for institutions which possess networks to maximize their use and invent value-added services to inform, entertain, or enhance commercial effectiveness. Public interest is the field on which policy struggles take place. Public interest implies the invocation of social purpose in all public policy matters.

From regulated monopoly to pure and untrammeled competition, from privacy to personal security, from access to fairness, all the traditional causes (and their countervailing policies) are requisites of public interest, although they arise differently in different societies. The United States has conducted most of its reforms in the name of choice and diversity; Britain has halfheartedly pursued this aim but has supplemented existing provision in radio and television in the interests of stated cultural purposes—breaking a monopoly, creating regionally based signals, offering opportunities to independent producers. The United States has been investment-led in its policymaking. Europe has been production-led and politics-led. These patterns survive changing environments in technology.

In a world of telecommunications interconnection and the elimination of traditional barriers between media, are there new "natural rights,'' a fresh, internationally acceptable liberal view of public interest? What are the prerequisites for such a view?

First, governments would have to accept that the unimpeded carriage of messages is a primary social good and that the elimination of scarcity no longer constitutes a case for controlling content of messages, either by rationing bandwidth or by interposing prohibitory agencies. This view is gaining acceptance in the United States but will have difficulty gaining acceptance in Western Europe in the foreseeable future. It should not, however, be impossible were there a profusion of signals on a scale which made interference impractical.

Second, in the new environment of international access and interconnection, governments should be restricted from inhibiting the flow of information across borders. It would be necessary to accept propaganda broadcasting—religious, political or moral—and alien entertainment. Concomitantly, there would be an obligation to political quietude.

Third, governments must be more aware of the centrality of copyright protection to the potential prosperity of information-based industries. Constant revision and reform of copyright is the only means by which these industries and services can progress. Only government can hold the ring and discover the points of balance among the changing needs of competing enterprises. New technologies encourage subtle and far-reaching alterations on the ways law impinges on the flow of information. New prohibitions arise and old ones are eliminated as they become impractical and obsolete. Policing off-air recording, for example, becomes impossible and forces change in copyright law and practice. The lines between slander, libel and fair comment become harder to draw in electronic communication. Just as a careful balance between the needs of corporations, government, and individuals has to be held in the case of privacy, so a similar balance has to be struck between the desserts of publishers and authors and the demands of intellectual and educational access.

Fourth, government should regulate to multiply the possibilities of interconnection. Rather than acting as a kind of marshal between systems, the new environment requires that systems exist in fruitful, mutual juxtaposition. It is hard to see how this objective can be guaranteed without a powerful regulatory system and regulatory mission within government.

Fifth, all individuals should be provided with actual access to the new instruments of telecommunications, in respect of person-to-person and group-to-group and person-to-society contact. Social freedoms and systems of communication are inseparable. The marketplace may allow networks to grow and make new technologies practical, but this development does not mean that equipment and services automatically reach the whole of society. A society cannot enjoy a free market in goods and transport unless its members enjoy access to roads and are permitted to move without hindrance wherever goods and resources are being supplied or demanded; by the same token, economic, social, and political freedom are impossible without access, in principle and practice, to the means of communication.

Finally, there is a paramount requirement that all customary cultural and political freedoms survive. This remains a sine qua non of public interest. Since the 1920s complex broadcast media restrictions have limited the freedoms available in the print media. While good reasons exist for each separate restriction—from crowded airways to suppression of pornography—our freedom of expression, taken as a whole, is less than it was at the turn of the century. Governments will have to practice domestically and internationally what they preach and benefit from commercially.

Clearly the new telecommunications environment has arisen from a commitment to free commercial practice. The commitment to cultural freedom, however, has wavered at times. Surely, an open society is the real goal toward which any new ideology of public interest should be encouraged.

Notes

Telecommunications Regulation in the 1990s

The author gratefully acknowledges the useful advice and comments from Robert Crandall, Martin Elton, Gerald Faulhaber, Morris Fiorina, Henry Geller, Charles Jackson, Alfred Kahn, Leland Johnson, Nicholas Miller, Paula Newberg, Bruce Owen, and Harry Shooshan.

1 For a complete exposition of the practices of AT&T that gave rise to the government's antitrust suit of 1974, see Roger G. Noll and Bruce M. Owen, "*U.S. v. AT&T:* The Economic Issues," in *The Antitrust Revolution*, ed. John Kwoka and Lawrence White (New York: Scott, Foresman, 1988).

2 State action immunity applies only if the state statute expressly substitutes regulation for competition and creates a regulatory process that involves relatively detailed supervision and review of the regulated market. The idea is to prevent states from simply granting unconstrained monopolies.

3 One category contains local exchange service and nearby toll calls, which are dominated by local telephone companies. The other is intrastate long distance service, which Judge Greene prohibits local service companies from providing and which is provided by AT&T and its competitors.

4 The primary exception is with respect to subscriber access charges, whereby the FCC sought to use a fixed monthly charge for all telephone customers, rather than a charge based on usage, as a means for paying the federal share of the fixed costs of the local telephone network. Here Congress was about to enact a rollback of the FCC decision when the FCC agreed to cut its planned access charges for residences by two-thirds, thus largely mooting the pending bill.

5 For a detailed history of the consideration and ultimate rejection of both bills, see Peter Temin and Louis Galambos, *The Fall of the Bell System: A Study of Prices and Politics* (New York: Cambridge University Press, 1987).

6 In a few cases regulation was not intended to guard against monopoly profits, but to prevent "destructive competition" or to extract windfall gains from perhaps structurally competitive owners of scarce resources, such as oil, natural gas, or prime urban land sites. Because these issues

have not been significant in telecommunications, they will not be discussed here. For more details, see Stephen Breyer, *Regulation and Its Reform* (Cambridge, Mass.: Harvard University Press, 1981).

7 For a descriptive history of state Granger laws, see Solon Justus Buck, *The Granger Movement* (Cambridge, Mass.: Harvard University Press, 1913). The origins of state regulation are, of course, different, and less controversial, than the debate about the origins of federal regulation. While the latter is widely regarded now as motivated in part by the desire to cartelize the railroads, the origin of state Granger laws was in the positions advocated by farm organizations.

8 The FCC's decision was overturned by the courts, thereby assuring a full experiment with competitive interstate telecommunications services. An important element of this decision is that the courts determined that the Communications Act of 1934 contained a presumption in favor of competition.

9 Peter Huber, *The Geodesic Network* (Washington, D.C.: U.S. Department of Justice, 1987), contains a detailed rundown of restrictive state regulation of bypass and other competitive offerings that threaten the monopolies of local service telephone companies. The pattern is sufficiently complicated as to defy simple characterization.

10 For detailed discussions of developments immediately after divestiture, see Peter Huber, *The Geodesic Network*, and Roger G. Noll and Bruce M. Owen, "*U.S. v. AT&T:* An Interim Assessment," in *New Competition in Telecommunications*, ed. Stephen Bradley and Jerry Hausman (Cambridge, Mass.: Harvard Business School Press, 1989).

11 For a more thorough treatment of trends in local service prices, see Roger G. Noll and Susan Riely, "The Laboratory of the States: Local Telephone Prices after Divestiture," Center for Economic Policy Research, Stanford University, 1988.

12 For an excellent survey of this literature, see David Baron, "Regulatory Incentive Mechanisms," in *Handbook of Industrial Organization*, ed. Richard Schmalensee and Robert Willig (New York: Macmillan, 1989).

13 The same problems arise no matter who manufactures the switches and writes the software. The developer of the system is bound to have superior knowledge and to seek ways to profit from that knowledge by withholding it from others. But the problem is not so great if the manufacturers have this knowledge, for then the BOCs can use competition among them to prevent abuses.

Fragmentation of the Telephone Network

1 Almarin Phillips, "The Impossibility of Competition in Telecommunications: Public Policy Gone Awry," in *Regulation, Reform and Public Utilities*, ed. Michael A. Crew (Lexington, Ky.: Lexington Books, 1982).

2 I do not attempt a detailed review of the regulatory history of the industry. For a useful analysis of these matters, see Gerald W. Brock, *The Tele-*

communications Industry (Cambridge, Mass.: Harvard University Press, 1984), particularly chapters 8–10.

3 Recently the FCC has taken notice by proposing "price-cap" regulation for interstate services.

4 This conclusion derives from the fact that the nontraffic sensitive plant allocated to interstate services is fixed. Thus, the average charge per minute rises as usage falls. If AT&T had a monopoly in interexchange services, its incremental access charge per minute would be zero. With a 70 percent market share AT&T's incremental cost is not zero, but it is substantially below its average cost.

5 See Roger Noll's chapter in this volume.

6 I am indebted to Roger Noll for suggesting the major theme in the next few paragraphs.

7 Joseph Fuhr has suggested this approach for measuring urban and rural rates in "Telephone Subsidization in Rural Areas," mimeo, Widener University, 1987.

8 See Leland Johnson, "Telephone Assistance for Low Income Households: A Preliminary Assessment" (Santa Monica, Calif.: Rand Corporation, February 1988) for an analysis of alternative policies to promote universal service.

9 U.S. Department of Commerce, National Income and Product Accounts, *Survey of Current Business* (July issue), table 6.2 (Washington, D.C.: GPO).

10 Bureau of Labor Statistics, *Consumer Price Index*.

11 Based upon data reported to the FCC by IX carriers. See FCC, Common Carrier Bureau, Industry Analysis Division, "Trends in Telephone Service," January 1988.

12 U.S. Department of Commerce, *Fixed Reproducible Tangible Wealth in the United States*, June 1987.

13 Collected by the author from FCC, USTA, and company data.

14 U.S. Department of Commerce, *Current Industrial Reports*, MA36-N.

15 For various interpretations of the decree, see Timothy J. Brennan, "Regulated Firms in Unregulated Markets: Understanding the Divestiture in U.S. v. AT&T," U.S. Department of Justice, Antitrust Division, *Economic Analysis Group Discussion Paper*, EAG-86-5, April 11, 1986; Harry M. Shooshan III, ed., *Disconnecting Bell, The Impact of the AT&T Divestiture* (New York: Pergamon Press, 1984); William A. Brock and David S. Evans, "Predation: A Critique of the Government's Case in *U.S. v. AT&T*," in *Breaking Up Bell*, ed. David S. Evans (New York: North Holland Press, 1983); and the decree itself, U.S. v. AT&T Co., 552 F. Supp. 131 (1982).

16 Bellcore, "The Impact of Federal Price Cap Regulation on Interstate Toll Customers," mimeo, March 17, 1988; Economics and Technology Inc., "Analysis of Bell Communications Research, March 17, 1988 Study," Report prepared for ICA, April 20, 1988.

17 John T. Wenders and Bruce L. Egan, "The Implications of Economic Efficiency for U.S. Telecommunications Policy," *Telecommunications Policy* (March 1986), 33–40.

18 Based upon this author's analysis of BLS data on labor productivity and his calculation of total factor productivity in telephone common carriage.

Network Pluralism and Regulatory Pluralism

The author is grateful to Larry Darby, Bruce Egan, Mark Jameson, Sanford Levin, Milton Mueller, Paula Newberg, Robert Pepper, Ken Robinson, Lee Schmidt, Harry M. Shooshan, Joan Thomas, Ernest Ting, and especially to Thomas Aust for their assistance. No views expressed in this article should necessarily be attributed to their comments, their institutions, or to the New York State Public Service Commission.

1 Nathan C. Kingsbury, vice-president of AT&T, to James McReynolds, U.S. attorney general, letter dated December 19, 1913, representing an acceptable compromise to avoid antitrust litigation. AT&T agreed to sell Western Electric stock it owned, purchase no more independent telephone companies except with ICC approval, and to connect independent telephone companies to the AT&T network.

2 *Use of the Carterfone Device in Message Toll Tel. Serv.*, 13 FCC 2d 420, 1968, and later for the interconnection of rival long-distance companies in Execunet, MCI Telecommunications Corp. v. FCC, 561 F.2d 365 (D.C. Cir. 1977), cert. denied, 4343 U.S. 1040 (1978) [Execunet I]; MCI Telecommunications Corp. v. FCC, 580 F.2d 590 (D.C. Cir.), cert. denied. 439 U.S. 980 (1978) [Execunet II].

3 FCC, *Computer Inquiries* I (1971), II (1980), and III (1985).

4 Louisiana Public Service Commission v. FCC and NARUC v. FCC, 103 S.Ct. 2109, 1983.

5 Title 49; U.S.C. 10301, 1982.

6 Railroad Commission of Wis. v. Chicago B. & Q. R.R., 57 U.S. 563 (1922); Houston, E. & W. Tex. Ry. v. United States, 234 U.S. 342 (1914) [the Shreveport Case]; Southern Ry. v. United States, 222 U.S. 20 (1911).

7 47 U.S.C. 151, et seq.

8 47 U.S.C. Secs. 2(b), 221(b).

9 One should add parenthetically that many FCC policies are not truly deregulatory in the sense of noninterference. The FCC and Judge Greene have put up many structural regulations that establish who can do what and in what market. For example, long-distance carriers cannot provide local service; local exchange companies cannot provide cable TV service; cable TV operators cannot own broadcasters in their locality; broadcast networks cannot own certain rights in TV series, and so on. Therefore, the FCC has regulation still firmly in place, but it is often more structural than behavioral in nature.

10 *Use of the Carterfone Device in Message Toll Tel. Serv.*, 13 FCC 2d 420, 1968.

11 North Carolina Utilities Commission v. FCC, 552 F.2d 1036 (4th Cir.), cert. denied, 434 U.S. 874 (1977).

12 Louisiana Public Service Commission v. FCC and NARUC v. FCC, 103 S.Ct.

2109, 1983.

13 FCC, Cox Cable Communications Inc., Cox Commline Inc., Dec. Ruling, file no. CCB-DFD-83-1, September 5, 1985. (Court case: Cox Communications, Inc. v. Nebraska, pub. serv. 83-L-240, August 2, 1983).

14 National Association of Regulatory Utilities Commissioners v. FCC, 533 F.2d 601 (D.C. Circuit 1976).

15 Erie Telecommunications Inc. v. City of Erie, 659 F.2d 580 (W.D. Pa. 1987) aff'd on other grounds; F.2d (3rd Cir. 1988); Community Communications Co. v. City of Boulder, 455 U.S. 40 (1982) (antitrust).

16 Dissent by Brandeis, 285 U.S. 262, 311 (1932).

17 Eli Noam, "The Choice of Government Level in Regulation," *Kyklos* 35 (June 1982): 276–91.

18 General Telephone Company of California v. FCC, 413 F.2d 390 (D.C. Circuit 1969), cert. denied, 396 U.S. 888 (1969).

19 Chesapeake and Potomac of Maryland, Pet. for Declar. Ruling Regard Intrastate Private Lines Used in Interstate Communications, memorandum opinion order FCC 85-465, released August 16, 1985.

20 Arkansas Electric Cooperative Corp. v. Arkansas Public Service Commission, 461 U.S. 375 (1983); Pacific Gas & Electric Co. v. State Energy Resources Conservation and Development Commission, 461 U.S. 198 (1983); Silkwood v. Kerr-McGee, 104 Sp.Ct. 615 (1984); Hillsborough County v. Automated Medical Laboratories, Inc., 471 U.S. 707 (1985); Hayfield Northern Railroad Co., Inc. v. Chicago and Northern Transport Co., 104 Sp. Ct. 2610 (1984).

21 Garcia v. San Antonio Metropolitan Transit Authority, 105 S.Ct. 1005 (1985).

22 United States v. AT&T, 552 F. Supp. 131, 222–32 (D.D.C. 1982).

23 Milton Mueller, "Open Interconnection and the Economics of Networks: An Analysis and Critique of Current Policy," Paper presented at Telecommunications Policy Research Conference, Airlie, Virginia, October 31–November 1, 1988.

International Telecommunications Regulation

1 Major exceptions are the United Kingdom and Japan. British Telecom (a spin-off of the British Post Office) has been privatized and competes with Mercury Communications. This duopoly is to be maintained as a matter of U.K. public policy pending a review in 1990. Japan's National Telephone and Telegraph (NTT) has also been privatized, with limited competition permitted. For a comprehensive discussion of developments in the United States, Canada, United Kingdom, Federal Republic of Germany, France, Finland, and Japan, see Robert R. Bruce, J. P. Cunard, and Mark D. Director, *From Telecommunications to Electronic Services* (Boston: Butterworth Press, 1986).

2 Throughout the study service with Mexico and Canada is excluded because of the special nature of service arrangements with these countries.

3 Because more than 99 percent of telephone revenues come from "message" or "switched" services, with the remainder coming from private line offerings, all references in this chapter to telephone service will be confined to switched services.

4 FCC, *Trends in the International Communications Industry 1975–1986* (Washington, D.C., December 1987), 35. However, market shares vary widely among countries. See table 4.

5 *Telecommunications Reports* (December 21, 1987), 39–40. Prior to an FCC decision in 1982, FCC rules barred AT&T and the record carriers from entering each other's market. *Report and Order*, FCC 2d 641 (1983). But the decision to eliminate the bar has had little effect on AT&T's market share.

6 In 1986 AT&T received $1861 million from international switched and private line services, compared with a total of $589 million earned by record carriers. FCC, *Statistics of Communications Common Carriers* (Washington, D.C.: GPO, 1986), 17, 100.

7 FCC, Industry Analysis Division, Common Carrier Bureau, *International Message Telephone Service Between the United States and Selected Countries* (Washington, D.C.: November 1987), 16.

8 In contrast, the disparity goes in the other direction for telex. But the net dollar inflow of $11 million for telex in 1986 was overwhelmed by the outflow for telephone. FCC, *Trends in the International Communications Industry*, 15.

9 Evan Kwerel, *Reconciling Competition and Monopoly in the Supply of International Telecommunications Services: A U.S. Perspective*, FCC, Office of Plans and Policy, September 1987, tables 6 and 7.

10 FCC, Industry Analysis Division, Common Carrier Bureau, *Price Comparisons for International Dial Service in 1987* (Washington, D.C.: GPO, March 1988). Unfortunately, a breakdown of minutes by time of day is not available.

11 FCC, *Report and Order and Supplemental Notice of Inquiry*, CC Docket No. 86-494, FCC 88-71, March 25, 1988, 47–48.

12 Kwerel, *Reconciling Competition and Monopoly*, 45–48.

13 It is because regulation has forced AT&T to set lower rates than otherwise that some of its competitors have supported the notion of partially deregulating AT&T. By so doing, they reason, AT&T would hike its rates, permitting its competitors to do likewise and thereby increasing their own profits.

14 For a detailed discussion, see Robert E. Dansby and T. R. Luciano, "Financial Agreements for Jointly Provided International Services," mimeo, 1987.

15 More than 200 undersea telephone cables have been installed worldwide, including ten across the North Atlantic.

16 Earth stations, which transmit to and receive from satellites, are owned by the carriers or other entities.

17 Some services, most notably television transmission, are provided by Comsat directly to users such as television networks. But the bulk of its reve-

nue (and INTELSAT's) comes from the voice and data services of concern in this chapter.

18 Leland L. Johnson, *Issues in International Telecommunications: Government Regulation of Comsat*, R-3497-MF (Santa Monica, Calif.: The Rand Corporation, January 1987), 39–40.

19 About 73 percent of INTELSAT's revenues come from international voice service, with other services such as television and data transmission constituting the remainder. INTELSAT *Report* (Washington, D.C., 1986–87), 39.

20 FCC, *Comments of Communications Satellite Corporation* CC Docket No. 87-67, June 1, 1987, 13–14.

21 For a more detailed discussion of the upward bias in past projections, see Leland L. Johnson, *Excess Capacity in International Telecommunications: Poor Traffic Forecasting or What?* N-2542-MF (Santa Monica, Calif.: The Rand Corporation, November 1986).

22 Evan Kwerel and J. E. McNally, Jr., *Promoting Competition Between International Telecommunications Carriers and Satellites* (Washington, D.C.: FCC, Office of Plans and Policy, January 1986).

23 98 FCC 2d 440,441 (1984).

24 For a detailed discussion of this history, see Johnson, *Issues in International Telecommunications*, 12–21.

25 *Settlement Agreement*, 68 FCC 2d 941, 950–51 (1978). How the presence of internal efficiencies and economies is to be determined has never been specified by the FCC.

26 Federal International Transmission Corporation et al., *Reply to Supplemental Response*, FCC, CC docket Nos. 80-634, 80-268, August 22, 1986, p. 7.

27 Johnson, *Issues in International Telecommunications*, 26.

28 For discussions of the incentives of regulated firms, with many references to the literature, see E. R. Arzac and F. R. Edwards, "Efficiency in Regulated and Unregulated Firms: An Iconoclastic View of the Averch-Johnson Thesis," in *Problems in Public Utility Economics and Regulation*, ed. Michael A. Crew (Lexington, Ky.: Lexington Books, 1979), 41–54; D. Z. Czamanski, J. S. Henderson, C. J. Odle, and V. Witkind, *Regulation as a System of Incentives* (Columbus, Ohio: National Regulatory Research Institute, December 1980); and Roger G. Noll, *Empirical Studies of Utility Regulation*, Social Science Working Paper 135, Division of the Humanities and Social Sciences (Pasadena: California Institute of Technology, August 1976).

29 Its ownership share of 26 percent in 1986 is about the same as the combined ownership shares of the next four largest participants—the United Kingdom, France, Japan, and West Germany. Comsat's portion of INTELSAT's $1,528 million of net investment at year end 1986 ran to about $397 million.

30 In part for this reason the President's Task Force on Communications Policy recommended in 1968 that a "single entity" own both cable and satel-

lite facilities to be leased to AT&T and other carriers. See its *Final Report* (Washington, D.C.: GPO, December 1968), chapter 2; also M. J. Peck, "The Single Entity Proposal for International Telecommunications," *American Economic Review* (May 1970), 199–203.

31 56 FCC 2d 1101, 1154 (1975).

32 Under the agreement the monthly price for a digital "bearer" circuit will be $875 in 1988, decreasing to $825 in 1993, and to $800 in 1994. Use of circuit multiplication techniques permit about four "derived" circuits to be converted from each bearer circuit. Thus, the price of a derived circuit in 1994 would be about $200, compared to the current price for an analog circuit of $420. These low prices are dictated in part by the fact that circuit multiplication techniques will be used also on cable, greatly reducing the cost per derived cable circuit.

33 The ten-year period starts from the time the digital circuit is converted from analog or is newly activated. Thus, a circuit added in 1993 would operate under the price specified in the agreement until the year 2003.

34 INTELSAT, *Cost Methodology for Planned Domestic Service*, BG-67-63E (June 17, 1986), 1.

35 As reported in *Telecommunications Reports* (April 20, 1987), 4.

36 This tabulation is adapted from the conclusions of Pan American Satellite's contractor—Economists Incorporated, *INTELSAT Pricing and Costing for PDS Service* (Washington, D.C., November 20, 1987), i–iii.

37 See, for example, William J. Baumol, M. F. Koehn, and Robert D. Willig, "How Arbitrary is 'Arbitrary'?—or, Toward the Deserved Demise of Full Cost Allocation," *Public Utilities Fortnightly* (September 3, 1987), 16–21.

38 For a survey of the literature, see J. A. Ordover and G. Saloner, *Predation, Monopolization, and Antitrust*, RR No. 87-07 (Department of Economics, New York University), March 1987.

39 *Telecommunications Reports* (February 15, 1988), 3.

40 FCC 2d 296 (1984).

41 Kenneth R. Dunmore, *Issues in International Telecommunications Pricing and Demand*, Attach. II to Comments of Orion Satellite Corp., CC Docket No. 84-1299, November 27, 1984; Walter Hinchman Associates, *International Satellite Competition Impact Analysis*, INTELSAT, Washington, D.C., mimeo, January 25, 1985.

42 INTELSAT's monthly charge for a standard voice grade circuit in 1965 was $5333, compared to $780 at the end of 1987.

43 If we assume that a circuit has an average loading of 10 percent, the cost per minute of circuit use (based on a INTELSAT circuit monthly charge of $780) would run to about $0.18. This is less than 20 percent of the average revenue per minute shown in table 1.

44 Leland L. Johnson, *Response to Public Request for Comments on U.S. International Communications Policy*, Senate Subcommittee on Communications, Washington, D.C., mimeo, 35–36.

45 INTELSAT, *Developments in the International Telecommunications Envi-*

ronment, BG-74-15E (December 8, 1987), 20.

46 Ibid., 21.

Broadcasting

1 Chart from *Broadcasting Magazine* (April 18, 1988), 14.

2 *1985 Fairness Report*, 102 FCC2d 143, par. 100.

3 When cable channels are included, 86 percent receive nine or more, with 31 percent receiving 30+ channels. Nielsen Television Index, September 1987.

4 47 U.S.C. 151, et seq., reaffirming the basic concepts in the Radio Act of 1927, 44 Stat. 1170.

5 The present renewal term is seven years in radio, five in television.

6 47 U.S.C. 301, 303, 307–9 (1988).

7 47 U.S.C. 307(b), 315(a) (1988); Red Lion Broadcasting Co. v. FCC, 395 U.S. 367 (1969); *Report on Editorializing by Broadcast Licensees*, 13 FCC 1246 (1949).

8 47 U.S.C. 303(h) (1988); Sanders Bros. Radio Station v. FCC, 309 U.S. 470 (1940).

9 P.L. 98-214, December 8, 1983.

10 47 U.S.C. 303(s) (1988).

11 Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1943).

12 See, for example, Louis Jaffe, "The Scandal in TV Licensing," *Harper's* (September 1957), 84; Bernard Schwartz, "Comparative Television and the Chancellor's Foot," *Georgetown Law Journal* 43 (1959): 655.

13 *Policy Statement on Comparative Broadcast Hearings*, 1 FCC 2d 393 (1965); Star Television, Inc. v. FCC, 416 F.2d 1086 (D.C. Cir 1969), J. Leventhal dissenting.

14 W. K. Jones, *Licensing of Major Broadcast Facilities by the Federal Communications Commission*, Admin. Conf. of the U.S., September 1962, 198–99.

15 FCC v. WNCN Listeners Guild, 450 U.S. 582 (1981).

16 National Black Media Coalition v. FCC, 589 F.2d 578 (D.C. Cir. 1978). From 1973 to the early 1980s the FCC did have processing guidelines for its renewal staff as to nonentertainment programming (and local programming in television), so that the staff could grant renewal under delegated authority. See Office of Communication of the United Church of Christ v. FCC, 707 F.2d 1413, 1420–21 (D.C. Cir. 1983) (UCC III).

17 *Public Service Responsibility of Broadcast Licensees* (1946); *En Banc Programming Inquiry*, 44 FCC 2303 (1960); *Ascertainment of Community Problems by Broadcast Applicants*, 57 FCC 2d 418 (1976); *Revision of FCC Form 303*, 54 FCC 2d 750 (1976).

18 Dean Burch, FCC Chairman, to International Radio and Television Society, speech given on September 14, 1973. Quoted in FCC Memo 06608, 3.

19 *Lamar Life Broadcasting Co.*, 38 FCC 1143 (1965); Office of Communica-

tions of the United Church of Christ v. FCC, 359 F.2d 994 (D.C. Cir. 1965) (UCC I).

20 Office of Communication of the United Church of Christ v. FCC, 425 F.2d 543 (D.C. Cir. 1969) (UCC II).

21 *KORD*, Inc., 31 FCC 85 (1961).

22 *Moline Television Corp.*, 31 FCC 2d 263 (1971).

23 *Simon Geller*, 90 FCC 2d 250, 265 (1982); *Herman Hall*, 11 FCC 2d 344 (1968).

24 Deregulation of Radio, *Report and Order*, 84 FCC 2d 968, para. 117 (1961), recon. granted in part, 87 FCC2d 797 (1981), aff'd in part and remanded in part sub nom. UCC III; Commercial TV Stations, *Report and Order*, 96 FCC 2d 1076 pars. 89–90 (1984); Television Regulation, *Memorandum Opinion and Order on Reconsideration*, 104 FCC2d 358 (1986), rev'd in part sub nom. Action for Children's Television v. FCC, 821 F.2d 741 (D.C. Cir. 1987).

25 Office of Communication of the United Church of Christ v. FCC, 779 F.2d 702, 710 (D.C. Cir. 1985) (UCC IV).

26 *Television Deregulation*, 98 FCC 2d at 1093–95, pars. 37, 39.

27 *Children's TV Programming*, 50 FCC 2d 1 (1974), aff'd Action for Children's Television v. FCC, 564 F.2d 458 (D.C. Cir 1977).

28 FCC, Office of Plans and Policy, *Television Programming Report: A Report of the Children's Television Task Force*, FCC Docket No. 19142 (1979).

29 TV Programming for Children, *Report and Order*, 96 FCC 2d 634 para. 46 (1984), aff'd sub nom; Action for Children's Television v. FCC, 756 F.2d 899 (D.C. Cir. 1985).

30 Action for Children's Television v. FCC, 821 F.2d 741 (D.C. Cir. 1987); NABB v. FCC, 830 F.2d 270 (D.C. Cir. 1987). This has significance beyond the amount of commercial material. The FCC also has a policy calling for strict separation of programming and commercial material in children's programs, and the reversal in the NABB case raises a question in this respect also.

31 There are pending bills dealing with children's television programming in the 100th Congress. See S.1277, 1505, 2071, at H.R. 3288 and 3966, calling for a specified number of hours a week of informational/educational programming or restoring the previous commercial guidelines, including the ban on program-length commercials. In June 1988 the House passed H.R. 3966, specifying limits on the amount of commercials in children's television programs and requiring the television broadcaster to serve the educational and informational needs of children in its overall programming.

32 *Cowles Broadcasting, Inc.*, 86 FCC 2d 993, 1015 (1981), aff'd sub nom. Central Florida Enterprises, Inc. v. FCC, 683 F.2d 503 (D.C. Cir. 1982), cert. denied, 460 U.S. 1084 (1983).

33 *Notice of Inquiry*, 27 FCC 2d 580 (1971); *Further Notice of Inquiry*, 31 FCC 2d 443 (1971); *Second Further Notice of Inquiry*, 43 FCC 2d 367 (1973); *Third Further Notice of Inquiry*, 43 FCC 2d 1043 (1973); *Report and Order*,

66 FCC 2d 419 (1977), aff'd sub nom. National Black Media Coalition v. FCC, 589 F.2d 578 (D.C. Cir. 1978); Central Florida Enterprises, Inc. v. FCC, 598 F.2d 37, 49 (D.C. Cir 1978); see Henry Geller, "The Comparative Renewal Process in Television: Problems and Suggested Solutions," *Virginia Law Review* 61 (1975): 471.

34 Docket No. 81-742. *In re Formulation of Policies Relating to the Broadcast Renewal Applicant Stemming from the Comparative Hearing Process*; further notice issued in June 1988.

35 *Aspen Institute*, 55 FCC 2d 697 (1975), aff'd sub nom. Chisholm v. FCC, 538 F.2d 349 (D.C. Cir. 1976), cert. denied, 429 U.S. 890 (1976).

36 *Report on Editorializing by Broadcast Licensees*; 1959 Amendments to Section 315(a), 47 U.S.C. 315(a). As to whether Congress merely ratified or codified, see TRAC v. FCC, 801 F.2d 501 (D.C. Cir. 1986), cert. denied, 107 S.Ct. 3196 (1987). This issue is again before the courts in the pending fairness doctrine appeal. See note 41.

37 See Henry Geller, *The Fairness Doctrine In Broadcasting* (Washington, D.C.: Rand Corporation R-1412-FF, December 1973); Steven J. Simmons, *The Fairness Doctrine and the Media* (Berkeley and Los Angeles: University of California Press, 1978).

38 *Memorandum Opinion and Order in re Syracuse Peace Council*, 2 FCC Rcd 5043 (1987); *1985 Fairness Report*; Syracuse Peace Council v. FCC, No. 87-1516 (D.C. Cir.); Henry Geller and Donna Lampert v. FCC, No. 87-1554 (D.C. Cir.). It should be noted that the author is also a petitioner seeking review and reversal of the FCC's 1987 action; "The President Steals the Show," *Broadcasting Magazine* (April 18, 1988), 43.

39 Associated Press v. U.S., 326 U.S. 1, 25; FCC v. NCCB, 436 U.S. 775, 794–95 (1978).

40 47 CFR Sec. 73.3555; 47 CFR Sec. 76.501 (1986); *Multiple Ownership of AM, FM, and Television Broadcast Stations*, 48 *Federal Register* 49, 438; Sec. 3.636, 47 C.F.R. Sec. 3.636; 47 CFR Sec. 73.3555(d).

41 See *Minority Ownership of Broadcasting Facilities*, 68 FCC 2d 979 (1978).

42 Continuing Resolution, Public L.#100-202, 101 Stat. 1329-31, U.S. Code Cong. and Admin. News, Feb. 1988, no. 12, effective December 22, 1987.

43 See 47 CFR Secs. 73.132, 73.232, 73.658, 73.3613, 73.4154, 73.4157.

44 47 CFR 73.3555(d).

45 47 CFR, Sec. 73.658 (j).

46 Miami Herald v. Tornillo, 418 U.S. 241 (1974).

47 FCC v. League of Women Voters, 468 U.S. 364, 380 (1984); Syracuse Peace Council, note 42, at 5052, para. 60.

48 Red Lion Broadcasting Co. v. FCC, 395 U.S. 367 (1969); U.S. v. NBC, 319 U.S. 190, 219 (1943).

49 See Judge Bork's opinion in TRAC v. FCC, 801 F.2d at 508.

50 See Branch v. FCC, 824 F.2d 37, 50 (D.C. Cir. 1987), cert. denied, 56 U.S.L.W. 3642 (1988); See FCC v. Pacifica Foundation, 438 U.S. 726, 749 (1978).

51 See Red Lion, 395 U.S. at 391; Branch v. FCC.

52 See CBS v. FCC (Carter-Mondale), 453 U.S. 367 (1981); Henry Geller and

Jane Yurow, "The Reasonable Access Provision (312[a] [7]) of the Communications Act," *Federal Communications Law Journal* 34 (1982): 389.

53 CBS, v. FCC, 453 U.S. 367 (1981).

54 See dissent of Justice Stevens, ibid, Secs. 418–19.

55 *Lamar Life Broadcasting Co.*, 38 FCC 1143 (1985).

56 UCC I, 359 F.2d at 1009; UCC II, 425 F.2d 543.

57 Section 315(a), 47 U.S.C. 315(a).

58 James M. Landis, *Report on Regulatory Agencies to the President-Elect* (1960), 53.

59 *In re Applications of Cowles Florida Broadcasting, Inc.*, 60 FCC 2d 371, 439 (1976).

60 See UCC IV, 779 F.2d at 710; UCC III, 707 F.2d at 1441–42.

61 Radio Broadcast Services: Revision of Applications for Renewal of License of Commercial and Noncommercial AM, FM & Television Licensees, *Report and Order* in Docket No. 80-253, FCC 81-146, *Federal Register* 26, 236, 49 Rad.Reg. 2d (P&F) 740 para. 3 (1981); Cf. UCC III, 707 F.2d at 1442. Indeed, except for the Network Inquiry Study, supra, and distant signal/syndicated exclusivity study in the cable television field, 79 FCC 2d 663 (1980), the commission has never monitored results of its regulatory actions. This is a glaring deficiency.

62 *Television Digest* (October 19, 1987), 4.

63 Mark Fowler, FCC chairman, to Arizona State University, address given February 11, 1983, on Children's Television and the FCC, cited in Washington Association for Television & Children v. FCC, 712 F.2d 677, 683 n.12 (D.C. Cir. 1983).

64 "The Thinking Man's Media Baron," *Broadcasting Magazine* (April 13, 1987), 70.

65 *Report and Order* in BC Docket No. 81-897, 52 R.R. 2d (P&F) 1081, 1087 (1982).

66 Crowder v. FCC, 399 F.2d 569, 571–72 (D.C. Cir. 1968), cert. denied 393 U.S. 962 (1968).

67 *Children's Television Report and Policy Statement*, 50 FCC2d 1 (1974).

68 "Station Flipping: Looking For a Smoking Gun," *Broadcasting Magazine* (June 30, 1986), 27–30.

69 FCC v. WNCN Listeners Guild, 450 U.S. 582 (1981).

70 Cong. Rec. E2190, June 19, 1986 (Remarks of Cong. Al Swift).

71 Christopher Sterling, "Comparative Renewal and the RKO Mess," *Gannett Center Journal* 2 (Winter 1988): 43–53.

72 The broadcaster's lawyers tell the broadcaster to do so, as do the commissioners. See "Quello Criticizes FCC on Must-Carry Rules," *Broadcasting Magazine* (September 29, 1986), 25–26.

73 Deregulation of Radio, *Memorandum Opinion and Order*, 57 R.R.2d (P&F) 93, para. 4 (1984); see also "The Myth of Deregulation," *Broadcasting Magazine* (August 15, 1983), 27–28; *Wall Street Journal* (December 13, 1982), sec. A, p. 29.

74 Deregulation of Radio, *Second Report and Order*, 96 FCC 2d 930, par.22

(1984).

75 460 U.S. 575 (1983). The Court there held that while the media are of course subject to general taxation, singling them out for a special tax, which can be raised or lowered, presents the most serious First Amendment issues, and absent special characteristics of the media justifying the action, will be struck down. See Henry Geller, Alan Ciampercero, and Donna Lampert, "The Cable Franchise Fee and the First Amendment," *Federal Communications Law Journal* 39 (1987): 1. This also obviates any problem under Minneapolis Star and Tribune, 460 U.S. 575 (1983).

76 A MESBIC is a minority enterprise small business investment cooperative.

77 Brandywine-Main Line v. FCC, 473 F.2d 16, 63 (D.C. Cir. 1972), Ch. J. Bazelon dissenting, cert. denied, 412 U.S. 922 (1972).

78 See Henry Geller, "The Comparative Renewal Process in Television," *Virginia Law Review* 61 (1975): 471, 498.

79 See "Are the FCC's Foreign Ownership Rules Passe?" *Broadcasting Magazine* (March 7, 1988), 22.

80 See, for example, Greater Boston Television Corp. v. FCC, 444 F.2d 841, 854–55 (D.C. Cir. 1970), cert. denied, 403 U.S. 923 (1971).

81 47 U.S.C. 307(b), 315(a) (1988); Red Lion Broadcasting Co. v. FCC, 395 U.S. 367 (1969); *Report on Editorializing by Broadcast Licensees*, 13 FCC 1246 (1949).

82 New York Times v. Sullivan, 376 U.S. 254 (1964).

83 See *First Report*, 48 FCC 2d 1, 46 (1974).

84 Henry Geller and Jane Yurow, "The Reasonable Access Provision (312[a][7]) of the Communications Act," *Federal Communications Law Journal* 34 (1982).

85 *First Report on Multiple Ownership*, 22 FCC 2d 306, 311 (1970):

> A proper objective is the maximum diversity of ownership that technology permits in each area. We are of the view that 60 different licensees are more desirable than 50, and even 51 are more desirable than 50. In a rapidly changing social climate, communication of ideas is vital. If a city has 60 frequencies available but they are licensed to only 50 different licensees, the number of sources for ideas is not maximized. It might be that the 51st licensee would become the communication channel for a solution to a severe local social crisis. No one can say that present licensees are broadcasting everything worthwhile that can be communicated.

See also *Second Report and* Order, 50 FCC 2d 1046, 1079 (1975): "If our democratic society is to function, nothing can be more important than insuring that there is a free flow of information from as many divergent sources as possible."

86 This issue is developed more fully in the chapter on public broadcasting.

87 S.1935, Section 303 (g), 100th Cong., imposing a 2 percent fee on the transfer of any commercial license; for two years the money collected from the transfer fee will go to the treasury to reduce the budget deficit.

After two years the funds will be placed in a new trust fund to provide money for public broadcasting.

88 FCC v. Pacifica Broadcasting Co., 438 U.S. 726 (1978) (the repetition of the so-called seven dirty words); New Indecency Enforcement Standards To Be Applied to All Broadcast and Amateur Radio Licensees, *Public Notice*, 62 R.R.2d (P&F) 1218 (1987); *Memorandum Opinion and Order*, 64 R.R.2d (P&F) 211 (1987).

89 FCC v. Pacifica Foundation, 438 U.S. 726, 757 (concerning opinion of Justice Powell).

90 Quincy Cable Co. v. FCC, 768 F.2d 1434 (D.C. Cir. 1985), cert. denied, sub nom. NAB v. Quincy Cable TV, Inc., 106 S.Ct. 2889 (1986).

91 A/B switches permit viewers to switch television's input from cable reception to antenna reception.

92 Century Federal Cable, Inc. v. FCC, 835 F.2d 292 (D.C. Cir. 1987), cert. denied, sub nom. UCC v. FCC, 56 U.S. Law Week 3818 (1988).

93 MMDS uses microwave frequencies (2 GHz) to transmit 12–20 channels of cable programming like HBO to subscribers, at a relatively inexpensive subscriber equipment cost ($150–$175). See Eli Noam, ed., *Video Media Competition* (New York: Columbia University Press, 1985), 31–35; with such a revision eliminating distant signals, there would be no need to resort to exclusivity for syndicated programming for which local stations have exclusive rights acquired in market bidding and which are also carried on distant signals on the cable system. *Programming Exclusivity Rules*, FCC General Docket #87-24, May 18, 1988. At most, restoration of exclusivity would be applicable only to the smaller markets where distant signal importation might still be permissible.

94 U.S. v. Southwestern Cable Co., 392 U.S. 157, 178 (1968); U.S. v. NBC, 319 U.S. 190, 219 (1943); Black Hills Video Corp. v. FCC, 399 F.2d 65, 69 (8th Cir. 1968).

95 The pending bill, S.899, requires any person who scrambles a satellite signal available to cable customers to sell that programming to home dish owners and, if other parties are used to distribute the programming, to establish reasonable business standards under which people can become distributors of such programming and not to discriminate among distributors who meet these standards.

Broadcasting and the First Amendment

I am thankful for help I received on this chapter from Henry Geller, Paula Newberg, Michael Shapiro, Erwin Chemerinsky, and especially Thomas Krattenmaker. I reluctantly accept responsibility for any remaining errors.

1 Syracuse Peace Council, 2 FCC Rcd. (1987).

2 In the field of broadcasting the Court has said, "It is the right of the viewers and listeners, not the right of the broadcasters, which is paramount. . . . It is the right of the public to receive suitable access to social, political, aesthetic, moral, and other ideas and experiences which is crucial here."

Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969). Therefore, proceeds this argument, broadcasters have a duty to provide the information that listeners and viewers have a right to receive. As a corollary, broadcasters often have no right to refrain from speaking.

3 Minneapolis Star and Tribune Co. v. Minnesota Commissioner of Revenue, 460 U.S. 575 (1983).

4 Near v. Minnesota, 283 U.S. 697 (1931).

5 "Obscene" matter is a term of art, denoting matter which the average person, applying contemporary community standards, would find appeals, on the whole, to the prurient interest; which depicts, in a patently offensive manner, sexual or excretory conduct; and which, taken as a whole, lacks serious literary, artistic, political, or scientific merit. Miller v. California, 413 U.S. 15 (1973). All three elements of this definition of obscenity must be satisfied in order for a publication to fall within the definition and lose all First Amendment protection.

6 Miami Herald Publishing Co. v. Tornillo, 418 U.S. 241 (1974).

7 Lucas A. Powe Jr., "Tornillo," *Supreme Court Review* 1987 (1988): 345.

8 Minneapolis Star and Tribune Co., 258. Recently the Court extended these principles to a newsletter published by a private utility. Pacific Gas and Electric Co. v. Public Utilities Commission of California, 475 U.S. 1 (1986).

9 Cohen v. California, 403 U.S. 15 (1971).

10 See William Cohen, "A Look Back at Cohen v. California," *UCLA Law Review* 34 (1987): 1595; Bethel School District v. Fraser, 106 S. Ct. 3159 (1986).

11 47 U.S.C. Sec. 307, 309 (West 1962 & Supp. 1988).

12 47 U.S.C. Sec. 309 (West 1962 & Supp. 1988).

13 Ibid.; Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1945); Johnson Broadcasting Co. v. FCC, 175 F.2d 351 (D.C. Cir. 1949); Robert A. Anthony, "Towards Simplicity and Rationality in Comparative Broadcast Licensing Proceedings," *Stanford Law Review* 24 (1971): 1; Matthew L. Spitzer, "Multicriteria Choice Processes: An Application of Public Choice Theory to Bakke, the FCC, and the Courts," *Yale Law Journal* 88 (1979): 717.

14 Applicants would be compared on, for example, the plans for their studio, the proposed programming plans, their past broadcast records, their characters, their degree of involvement with the community, technical qualifications, and so forth. See, for example, Greater Boston Television Corp. v. FCC, 444 F.2d 841 (D.C. Cir. 1970), cert. den., 403 U.S. 923 (1971).

15 Policy Statement on Comparative Broadcast Hearings, 1 FCC 2d 393 (1956).

16 This criterion is thought to have two important justifications. First, an owner who is working full-time in the station must live locally. The local owner will become more aware of the needs and interests of the community of license and, because he is working in the station, will make certain that the station's programming responds to those needs. Second, an owner will have an increased incentive to ensure that the station complies with all the rules and regulations of the FCC, whereas a manager who does not own the station might have reduced incentives. See

1956 Policy Statement on Comparative Broadcast Hearings, 1 FCC 2d 393. The District of Columbia Circuit Court of Appeals has suggested in TV 9, Inc. v. FCC, 495 F.2d 929 (D.C. Cir. 1973), cert. den. 419 U.S. 986 (1974) that the FCC must consider any other relevant criteria for comparing applicants, such as the race of the applicants, when such differences arise.

17 47 U.S.C.A. Sec. 307(c) (West 1962 & Supp. 1988).

18 Ashbacker Radio Co. v. FCC, 332–33; 47 U.S.C.A. Sec. 309 (West 1962 & Supp. 1988). Standards applied to comparative renewal hearings may differ from standards applied to initial broadcast license comparative hearings. In particular the renewal applicant's past broadcast record may be given greater weight, essentially on a noncomparative basis, in a renewal hearing. See Central Florida Enterprises, Inc. v. FCC (II), 683 F.2d 503 (D.C. Cir. 1982), cert. den., 460 U.S. 1084 (1983); and Committee for Community Access v. FCC, 737 F.2d 74 (D.C. Cir. 1984). Until recent deregulatory moves by the FCC, an applicant for a broadcast license had to describe to the FCC the nature and extent of the applicant's proposed programming plans. If the applicant was awarded a license it was required, to some extent, to fulfill these plans. See FCC v. WNCN Listener's Guild, 450 U.S. 582 (1981). The licensee was allowed to change its mind about what the public interest required in the way of broadcasting for its community of license. However, if the broadcaster immediately and radically reversed its field by broadcasting material that was very different from that promised in the application, individual citizens, as well as competing applicants, could claim at renewal time that the broadcaster was not being honest with the commission at the time it applied for the license. If they demonstrated that the broadcaster was guilty of a "lack of candor," the commission could assess a substantial demerit against the broadcaster at renewal time. In this way the broadcast applicant's promises about proposed issue-oriented programming restrained, at least theoretically, its flexibility to choose broadcast content after the license was awarded.

19 In its inquiry into Section 73.1910 of the commission's Rules and Regulations Concerning Alternatives to the General Fairness Doctrine Obligations of Broadcast Licensees, 102 FCC 2d 145 (1985) (hereinafter, 1985 Fairness Doctrine Report) the FCC concluded that the Fairness Doctrine had been counterproductive. This conclusion was preceded in the academic literature. See especially Thomas Krattenmaker and Lucas Powe, "The Fairness Doctrine Today: A Constitutional Curiosity and an Impossible Dream," *Duke Law Journal* 85 (1985): 151.

20 Dennis R. Patrick to the Honorable John Dingell, chairman, House Committee on Energy and Commerce, LS as FCC chairman, September 22, 1987.

21 No broadcaster need respond if the attacked person is a foreign group or public figure; if the attack is made by a legally qualified candidate or authorized spokesperson on opposing candidates or spokespersons; if the attacks are made within bona fide newscasts, bona fide news interviews, or on-the-spot coverage of bona fide news events.

22 See 47 U.S.C.A. Sec. 315(a) (West 1962 & Supp. 1988); The Law of Political Broadcasting and Cablecasting, 69 FCC 2d 2209 (1978); In the Matter of Amendment of Parts 73 and 76 of the Commission's Rules Relating to Broadcasts and Cablecasts by Legally Qualified Candidates for Public Office, 68 FCC 2d 1049 (1978).

23 Nicholas Zapple, 23 FCC 2d 707 (1970).

24 47 U.S.C.A. Sec. 312(a)(7) (West 1962 & Supp. 1988). As explained in the FCC's 1978 report and order implementing section 312(a)(7), Report and Order: Commission Policy in Enforcing 312(a)(7) of the Communications Act, 68 FCC 2d 1079 (1978), and as approved in the landmark case CBS, Inc. v. FCC, 453 U.S. 367 (1981), the Federal Communications Commission is to determine, as a matter of fact, when the campaign for a federal elective office has started. Once the FCC finds that the campaign has started, the broadcaster's obligation described in the text begins.

25 Public Notice: New Indecency Standards to be Applied to all Broadcast and Amateur Radio Licensee, 2 FCC Rcd. 2726 (1987); In the Matter of David Hidebrand, 2 FCC Rcd. 2708 (1987); In the Matter of Pacifica Foundation, Inc., 2 FCC Rcd. 2698 (1987); and In the Matter of Infinity Broadcasting Corp., 2 FCC Rcd. 2705 (1987).

26 Children's Television Report and Statement, 50 FCC 2d 1 (1974) aff'd, 564 F. 2d 458 (D.C. Dir. 1977).

27 Children's TV Programming, 50 FCC 2d 1 (1974), aff'd ACT v. FCC, 564 F.2d 458 (D.C. Cir. 1977); Television Programming Report: A Report of the Children's Television Task Force, Office of Plans and Policy (1979); TV Programming for Children, Report and Order, 96 FCC 2d 634 (1984), aff'd sub nom. Action for Children's Television v. FCC, 756 F.2d 899 (D.C. Cir. 1985); Action for Children's Television v. FCC, 821 F.2d 741 (D.C. Cir. 1987); NABB v. FCC, 830 F.2d 270 (D.C. Cir. 1987).

28 47 U.S.C.A. Sec. 541 (West 1962 & Supp. 1988)

29 47 U.S.C.A. Secs. 532(h) and 544(d) (West 1962 & Supp. 1988). See, generally, 47 U.S.C.A. Secs. 521–58 (West 1962 & Supp. 1988); ACLU v. FCC, 823 F.2d 1554 (D.C. Cir. 1987).

30 Kovacs v. Cooper, 336 U.S. 77 (1949). The Supreme Court has made similar holdings in a pair of decisions dealing with First Amendment protection for motion pictures: Joseph Burstyn, Inc. v. Wilson, 343 U.S. 495 (1952); Freedman v. Maryland, 380 U.S. 51 (1965). In the Freedman case, the Supreme Court approved a film-licensing scheme for motion pictures, subject to the requirement that the licensing scheme incorporates procedural safeguards designed to guard against abuse of the licensing scheme.

31 This discussion follows closely my discussion of these subjects in *Seven Dirty Words and Six Other Stories: Controlling the Content of Print and Broadcast* (New Haven, Conn.: Yale University Press, 1986). Some of my discussion of the scarcity rationale has been adapted from Ronald H. Coase, "The Federal Communications Commission," *Journal of Law and Economics* 2 (1959): 12–40; and Daniel D. Polsby, "Candidate Access to the Air: The Uncertain Future of Broadcaster Discretion," *Supreme Court*

Review 1981 (1982): 223.

32 319 U.S. 190, 226 (1943) (turning away a First Amendment claim) (emphasis added).

33 319 U.S. 228 (Murphy, J. dissenting).

34 395 U.S. 367 (1969).

35 In the words of the court: "Where there are substantially more individuals who want to broadcast than there are frequencies to allocate, . . . only a few can be licensed and the rest must be barred from the airwaves." Red Lion Broadcasting Co. v. FCC, 388–89.

36 See FCC v. Pacifica Foundation, 438 U.S. 726 (1978); Consolidated Edison Co. v. Public Service Commissioner, 447 U.S. 530 (1980); and Robert M. Liebert and Joyce Sprafkin, *The Early Window*, 2d. ed., Pergamon General Psychological Series (New York: Pergamon Press, 1988).

37 FCC v. League of Women Voters, 468 U.S. 364 (1984). In the words of the court: "The prevailing rationale for broadcast regulation based on spectrum scarcity has come under increasing criticism in recent years." Critics, including the incumbent chairman of the FCC, charge that with the advent of cable and satellite television technology, communities now have access to such a wide variety of stations that the scarcity doctrine is obsolete. See, for example, Mark S. Fowler & Daniel L. Brenner, "A Marketplace Approach to Broadcast Regulation," *Texas Law Review* 60 (1982): 221–26. "We are not prepared, however, to reconsider our long-standing approach without some signal from Congress or the FCC that technological developments have advanced so far that some revision of the system of broadcast regulation may be required."

38 1985 Fairness Doctrine Report.

39 Syracuse Peace Council, 2 FCC Rcd. 5043, 5044 (1987).

40 Meredith Corp. v. FCC, 809 F.2d 863, 870–71 (D.C. Cir. 1987).

41 Syracuse Peace Council, 5053. The FCC contends in its brief to the D.C. Circuit that the finding that the scarcity rationale in Red Lion, which they term "allocational scarcity," is wrong was not necessary to the decision of the case. However, the FCC clearly tried to rest its holding, in part, on this finding.

42 Telecommunications Research & Action Center v. FCC, 801 F.2d 501, 508, rehearing en banc denied, 806 F.2d 1115 (D.C. Cir. 1986), cert. denied, 107 S.Ct. 3196 (1987).

43 Syracuse Peace Council, 5054.

44 Coase, "Federal Communications Commission," 25–35.

45 See Arthur S. De Vany, Ross D. Eckert, Charles J. Meyers, Donald J. O'Hara and Richard C. Scott, "A Property System for Market Allocation of the Electromagnetic Spectrum: A Legal-Economic-Engineering Study," *Stanford Law Review* 21 (1969): 1499; Jora R. Minasian, "Property Rights in Radiation: An Alternative Approach to Radio Frequency Allocation," *Journal of Law and Economics* 18 (1975): 221.

46 U.S. Congress, Senate Committee on Commerce, Science and Transportation, *Freedom of Expression: Hearings before the Senate Committee on*

Commerce, Science, and Transportation, 97th Cong., 2d sess. (1982), 81.

47 I discuss the similarities in the economics and industrial organization of print and broadcast in my *Seven Dirty Words*, chapter 2.

48 Just as there are no units of spectrum or paper until one first defines the communication job, depending on this definition either spectrum or paper will cost more. Hence, this cost-related version of the relative scarcity argument also fails to distinguish between paper and spectrum and fails to justify reduced First Amendment protection for broadcasting.

49 One other argument claims that television is hypnotic and therefore may persuade viewers of ideas in improper and unfair ways. I have reviewed at some length the evidence on television and improper persuasion and find it wholly lacking in support for the argument. See Spitzer, *Seven Dirty Words*, 68–73.

50 Spitzer, *Seven Dirty Words*, 18–42.

51 1985 Fairness Doctrine Report.

52 When the market structure argument is applied to CATV, however, it has a great deal more plausibility.

53 By the late 1960s many of the scholars and commentators in the area of broadcasting and the First Amendment concluded that the scarcity rationale was a failure. Because the system of regulation had been in effect since 1927, and because lawyers and law professors are a rather cautious lot, the legal community was loathe to declare that the broadcast media should be deregulated. In addition, the idea of regulation was still much in vogue. These circumstances produced a demand for a new theory to justify the constitutionality of continued regulation of broadcasting. Lee Bollinger responded to this demand in "Freedom of the Press and Public Access: Toward a Theory of Partial Regulation of the Mass Media," *Michigan Law Review* 75 (1976): 1.

54 Ibid., 27.

55 Instead, the Court ought to acknowledge broadcasters as full-fledged participants in First Amendment traditions and yet permit Congress to experiment with press freedom to facilitate public access, allowing Congress to choose the medium to be regulated. This means, of course, that eventually the legislative branch may shift the target of its regulatory scheme to other segments of the media, provided it abandons its earlier target. Thus, it ought theoretically to be possible for Congress to abandon its regulation of the electronic media and choose instead to provide access within the confines of the newspaper industry. Ibid., 37. (Emphasis in original).

56 Bollinger's argument relies on the systemic benefits from freedom of expression. My critique of Bollinger's argument presumes that Bollinger's systemic approach to the First Amendment is correct, but that, given his basic premises, his argument fails. The discussions of access, but not diversity, can be read as appealing to both systemic and individualistic rationales for free expression. If we were to concentrate on the individualistic arguments for free expression, Bollinger's argument would fare no

better. For example, why would it be better to allow newspaper publishers to express their personalities, free of government control, but deny this opportunity to those who wished to broadcast? If there are good reasons for having some regulated media outlets, it would be better to have some regulated and some unregulated outlets in both print and broadcast. I have discussed Bollinger's argument on two different occasions. See Matthew L. Spitzer, "Controlling the Content of Print and Broadcast," *Southern California Law Review* 58 (1985): 1351; and *Seven Dirty Words*, 43–66.

57 U.S. Dept. of Commerce, Bureau of the Census, "Statistical Abstract of the United States," in *National Data Book and Guide to Sources* (1985), 542, 737. Virtually all content-neutral restrictions have similar effects. If the state were to prohibit leafletting at a state fair in order to control traffic flow and prevent litter, those who prefer to attend the fair would have reduced access to information compared to those who have other preferences. As long as the state has other good reasons for the regulation and is not motivated by a desire to restrict the flow of information to fairgoers, the courts will uphold the law. Here, however, the very reason for partial regulation is to enforce First Amendment values on behalf of the public. In this context skewing the distribution of First Amendment values to one group or another must be crucial, for there is no other purpose to justify the regulations. Geoffrey R. Stone, "Content Regulation and the First Amendment," *William and Mary Law Review* 25 (1983): 217–27.

58 Of course, this discussion brings up interesting issues about the extent to which the government can structure the broadcast and print media industries. Could the government constitutionally set up a newspaper and allow any citizen who wished to publish within the newspaper to come in and buy space for his article at nondiscriminatory rates? Similarly, could the government set up a common carrier broadcaster which would sell time to any producer of video material at nondiscriminatory rates on a first-come, first-served basis? As long as the government did not erect barriers to private newspapers or broadcasters in the market, and did not attempt to license them, such an approach would be perfectly constitutional under the First Amendment.

59 A realistic set of assumptions about politicians would include the following elements. First, politicians are interested in being reelected. Second, politicians are interested in helping to shape the political environment so that it matches their own ideological views, including the content of what is broadcast. This is true both because it will please their constituent supporters and because many politicians feel that their own ideological positions represent the best set of policies for the country. Third, politicians are also interested in gaining personal wealth and obtaining power.

60 When the president and congressional committees are at odds about what ought to be done, the Federal Communications Commission gains a great deal of additional flexibility in choosing its course of action. Under these circumstances commissioners can use their discretionary powers to de-

termine who obtains valuable broadcasting licenses and what is broadcast so as to satisfy their own preferences. To be safe when doing so, however, the Federal Communications Commissioners must go in a direction preferred by at least one powerful political ally.

61 Lucas A. Powe, Jr., *American Broadcasting and the First Amendment* (Berkeley: University of California Press, 1987).

62 Bernard Schwartz, *The Professor and the Commissions* (New York: Knopf, 1959), and "Comparative Television Licensing and the Chancellor's Foot," *Georgetown Law Journal* 47 (1959): 690–94.

63 Congress, House Committee on the Judiciary, *Hearing Before the House Committee on the Judiciary Pursuant to H.R. Res. 803*, 93d Cong., 2nd sess., book 5, pt. 1, 311–20, 346–78, and book 8, 321–23; Lucas Powe, *American Broadcasting*, 138–39. To affect media coverage White House special counsel Charles Colson met with the heads of all three networks. During this meeting Colson requested that the networks make time freely available to the president whenever he wanted it, that they curtail their use of instant analyses by news commentators, and that reply time, if any, be given to members of Congress (both Democrats and Republicans) rather than to the Democratic National Committee. Colson then advised the networks that their performance was being closely monitored. (Powe, *American Broadcasting*, 127–28.)

64 The examples from the Roosevelt, Eisenhower, Nixon and Kennedy/Johnson years are by no means the only ones we could adduce. See Powe, *American Broadcasting*; Thomas W. Hazlett, "The Rationality of U.S. Regulation of the Broadcast Spectrum" Working paper #87-4, University of California at Davis (1987).

65 47 U.S.C.A. Sec. 301 (West 1962 & Supp. 1988).

66 There is an extensive literature on this corner of First Amendment jurisprudence. See Robert C. Post, "Between Governance and Management: The History and Theory of the Public Forum," *UCLA Law Review* 34 (1987): 1713.

67 "In addition to time, place, and manner regulations, the state may reserve the forum for its intended purposes, communicative or otherwise, as long as the regulation on speech is reasonable and not merely an effort to suppress expression merely because public officials oppose the speaker's view." Perry Education Assoc. v. Perry Local Educators' Assoc., 460 U.S. 46 (1983).

68 The Supreme Court has applied public forum analysis to many different types of government resources. See, for example, Board of Airport Commissioners of Los Angeles v. Jews for Jesus, 107 S.Ct. 2568 (1987) (public airports); U.S. Postal Service v. Council of Greenberger Civic Association, 453 U.S. 114 (1981) (refusing to find that public mailboxes are public fora); Police Department of Chicago v. Mosely, 408 U.S. 92 (1972) (finding streets and sidewalks to be traditional public fora); Greer v. Spock, 424 U.S. 830 (1976) (refusing to find a military base a public forum); United States v. Albertini, 472 U.S. 675 (1985) (refusing to find a military base to

be a public forum even on an "open house" day); and Flower v. United States, 407 U.S. 197 (1972) (finding that a road on a portion of a military base that the military had in effect abandoned was a public forum); and Board of Education v. Pico, 457 U.S. 853 (1982) (holding that Board of Education possesses significant discretion to determine the contents of school libraries.)

There is support in other areas of First Amendment jurisprudence for something approximating the governmental property rationale. See Posadas de Puerto Rico Associates v. Tourism Company of Puerto Rico, 478 U.S. 328 (1986).

69 FCC v. Pacifica Foundation, 438 U.S. 726 (1978).

70 Ibid., 748.

71 Ibid., 765.

72 Ibid., 748–49. This rationale for regulation has been used in the context of regulating commercial and political advertisements. See CBS, Inc. v. Democratic National Comm., 412 U.S. 94 (1973); Banzhaf v. FCC, 405 F.2d 1082 (D.C. Cir. 1968), cert. denied, sub nom; Tobacco Inst., Inc. v. FCC, 396 U.S. 842 (1969).

73 FCC v. Pacifica Foundation, 749–50.

74 Syracuse Peace Council, nn. 197, 204.

75 Ibid., n. 204.

Public Broadcasting and Federal Policy

1 Erik Barnouw, *A Tower in Babel: A History of Broadcasting in the United States to 1933* (New York: Oxford University Press, 1966), 61.

2 John Witherspoon and Roselle Kovitz, *The History of Public Broadcasting* (Washington, D.C.: Current Newspaper, 1987), 7. The reader interested in a more comprehensive treatment of public broadcasting's history is referred to this excellent source.

3 Erik Barnouw, *The Golden Web: A History of Broadcasting in the United States, 1933–1953* (New York: Oxford University Press, 1968), 27.

4 Ibid., 24.

5 Witherspoon and Kovitz, *History of Public Broadcasting*, 48.

6 Ibid., 24.

7 While the Public Broadcasting Act of 1967 established the mechanisms for the public broadcasting system that exists today, it was not the first federal legislation that provided funding. In 1962 the Educational Television Facilities Act provided funds for equipment and the construction of new stations.

8 For a complete list of state, regional and national organizations, see *Public Broadcasting Directory* (Washington, D.C.: Corporation for Public Broadcasting) (published annually).

9 Corporation for Public Broadcasting, *A Report To The People: 1986 Annual Report* (Washington, D.C.: Corporation for Public Broadcasting,

1987), 8.

10 Ibid, 26.

11 Corporation for Public Broadcasting, *A Report to the People*, 8.

12 Corporation for Public Broadcasting, *Public Broadcasting Statistics in Brief* (Washington, D.C.: Corporation for Public Broadcasting, 1987), 7.

13 See *Using Public Television and Instructional Technologies to Meet Education Needs* (Washington, D.C.: Corporation for Public Broadcasting, 1988); U.S. Department of Education, National Center for Education Statistics, reporting on 1982–83 school year; Witherspoon and Kovitz, *History of Public Broadcasting*, 69.

14 Wilbur Schramm, *Big Media, Little Media: Tools and Technologies for Instruction* (Beverly Hills, Calif.: Sage Publications, 1977); Patricia Greenfield, *Mind and Media* (Cambridge, Mass.: Harvard University Press, 1984).

15 This figure and other financial data in this section are taken from published and unpublished documents provided by the Corporation for Public Broadcasting.

16 Christopher Sterling and Timothy Haight, *The Mass Media: Aspen Institute Guide to Communication Industry Trends* (New York: Praeger Publishers, 1978), 56.

17 A.C. Nielsen, based upon March 1987 data.

18 Quincy Cable Co. v. FCC, 768 F.2d 1434 (D.C. Cir. 1985), cert. den., sub nom. NAB v. Quincy Cable TV, Inc., 106 S.Ct. 2889 (1986).

19 Century Federal Cable, Inc. v. FCC, 835 F.2d 292 (D.C. Cir. 1987), cert. den.

20 *Broadcasting Magazine* (August 22, 1988), 68. An NAB survey of 259 responding stations found that 50 were not being carried on cable systems that would be required to carry them under the old must-carry rules.

21 *Cablevision* (September 25, 1988), 12. A survey of cable operators by the National Cable Television Association (NCTA) found that 98 percent of all stations which would have been carried under the old must-carry rules were still being carried in the absence of a must-carry rule.

22 See, for example, Frederick Wiseman, "Public TV is a Mess: CPB's Panel Program Selection System is a Failure," *Current* (March 30, 1988), 2.

23 See Witherspoon and Kovitz, *History of Public Broadcasting*, 39–46, for a case study of this dispute.

24 *A Public Trust: The Report of the Carnegie Commission on the Future of Public Broadcasting* (New York: Bantam Books, 1979), 66–92.

25 Ibid., 221–53.

26 John Carey, *Telecommunications Technologies and Public Broadcasting: 1986* (Washington, D.C.: Corporation for Public Broadcasting, 1986), 13.

27 In 1960, 28.5 percent of all married couples had dual incomes; in 1995 an estimated 55 percent of all married couples will have dual incomes. Reported in *USA Today* (August 30, 1988), A1.

28 The U.S. Census Bureau reports that 23.3 million adults pursued continuing education classes in 1984 (*Statistical Abstract of the United States*, 1988, p. 153.)
29 U.S. Census Bureau data, reported in *USA Today* (September 22, 1988), A1.
30 See also, Michael Rice, *Public Television: Issues of Purpose and Governance* (New York: Aspen Institute for Humanistic Studies, 1981), 13.
31 Witherspoon and Kovitz, *History of Public Broadcasting*, 50.

Cable Television

1 "Get on Board for the Future," *Broadcasting* (November 30, 1987), 58.
2 In this period before satellite-delivered networks cable systems relied for their programming primarily on retransmission of broadcasts from both local and distant stations. Broadcasters and other program owners were concerned about their programs being carried for "free" by cable companies. Yet, the U.S. Supreme Court held that cable systems were not liable for copyright payments under the Copyright Act of 1909 (retransmission of broadcast signals deemed not to be a "performance" under the act). Fortnightly Corp. v. United Artists Corp., 392 U.S. 390 (1968); Teleprompter Corp. v. Columbia Broadcasting System, 415 U.S. 394 (1974). As part of the "Consensus Agreement" which had resulted in the FCC lifting its freeze on cable's access to distant signals, the cable industry agreed to accept copyright liability. In 1976 Congress amended the copyright laws and imposed liability for cable retransmissions of broadcast signals. Cable was given a compulsory license to use such programming in return for which it pays copyright fees as established by statutory formula. See 17 U.S.C. Sec. 111.
3 The cable television industry has asserted its First Amendment rights in several cases involving challenges to FCC rules. While deciding the case on other grounds, Court of Appeals for the D.C. Circuit included a lengthy discussion of cable's status under the First Amendment (cable's rights more like those of newspapers than those of broadcasters) in its opinion which struck down the FCC's pay cable rules. Home Box Office v. FCC, 567 F.2d 9 (1977), cert. denied 434 U.S. 829 (1977). The same court twice invalidated the FCC's must-carry rules. In the first case the court determined that the rules in question were unconstitutional, but emphasized it was not deciding that any must-carry rule would be unconstitutional. Quincy Cable TV, Inc. v. FCC, 768 F.2d 1434 (D.C. Cir. 1985), cert. denied 476 U.S. 1169 (1986). However, in a challenge to a new set of must-carry rules subsequently adopted by the FCC, the court again found the rules unconstitutional. Century Communications Corp. v. FCC, 835 F.2d 292 (D.C. Cir. 1987), clarified 837 F.2d 517 (D.C. Cir. 1987), cert. denied 56 U.S.L.W. 3816 (March 31, 1988). The court decided that the rules lacked an adequate evidentiary basis, but declined to define further cable's First

Amendment status. Nevertheless, the D.C. Circuit seems to have erected a substantial constitutional barrier to any new must-carry rule which the FCC might adopt.

Cable's First Amendment rights have also been raised in a series of challenges to the franchising authority of cities. The cases have involved requirements for franchises, access channels, franchise fees and technical standards. The Supreme Court recognized that cable operators have First Amendment rights but declined to specify them without an appropriate factual context and remanded the case. Preferred Communications v. City of Los Angeles, 476 U.S. 488 (1986). Lower courts have issued a series of sometimes conflicting decisions concerning cable's First Amendment status and the limits of local franchising authority. Compare Century Federal v. City of Palo Alto, No. C-85-2168 EFL, Order (N.D. Cal. Sept. 1, 1987); Erie Telecommunications, Inc. v. City of Erie, 659 F. Supp. 580 (W.D. Pa. 1987). For the most part these lower courts have attempted to balance the cable operator's right to speech with a city's right to issue franchises in connection with the use of public rights-of-way.

4 Preferred Communications v. City of Los Angeles, 476 U.S. 488 (1986).

5 Paul Kagan Associates, *Summary of Cable TV Rate Increases—First Half, 1987* (Carmel, Calif., 1987).

6 Many companies repackaged their service offerings ("tiers") following deregulation so that fewer options would be available, but more services would be offered as part of basic or "expanded" basic service. This strategy has been referred to as "tier meltdown."

As a result of tier meltdown, it is difficult to calculate the extent of rate increases in absolute terms. However, there is no question that, for those consumers who do not want the additional services which have been included in new packages, the real cost of cable service has increased. According to the National League of Cities, over half of the rate increases during this period (first six months of 1987) were not accompanied by any increase in basic service. See National League of Cities, *Impact of the Cable Act on Franchising Authorities and Consumers* (Washington, D.C., 1987).

7 "Amendment of Parts 73 and 76 for the Commission's Rules Relating to Program Exclusivity in the Cable and Broadcast Industries," *Report and Order*, Gen. Docket No. 87-24 (July 15, 1988).

8 In general, public policy to promote competition can be easily justified on the basis of practical experience and economic theory. Thus, the policy of promoting competition in the cable industry is justified without showing that the cable industry has excessive market power. The finding of excessive monopoly/monopsony profits simply gives greater urgency to a policy that is already appropriate.

9 "Stern Words for Broadcasting, Cable from Dingell," *Broadcasting* (June 6, 1988), 28; see also "Metzenbaum Voices Displeasure with Cable Practices," *Communications Daily* (March 18, 1988), 3.

10 This pattern may be changing. Recently, the Commerce Department's NTIA

issued a report on cable which expressed concern about concentration of control in the industry. See *Video Program Distribution and Cable Television: Current Policy Issues and Recommendations*, NTIA Report 88-233, June 1988 (Washington, D.C.) ("NTIA Report").

11 The central question seems to be: Should cable's First Amendment rights be defined like those of newspapers (many channels, no scarcity), of broadcasters (single franchise, government-imposed scarcity), or of utilities (natural monopoly)? Or, does cable have a unique status? The uncertainty will persist until the Supreme Court answers this question.

However, the primary recommendations in this paper relating to industry structure and ensuring a competitive marketplace will be unaffected by the outcome of this debate. They are consistent with the Supreme Court's view that the First Amendment requires the government to ensure "the widest possible dissemination of information from diverse and antagonistic sources." Associated Press v. U.S., 326 U.S. 1 (1945).

12 Statistics in this section are drawn from material developed by Shooshan & Jackson Inc. as well as from *Broadcasting/Cablecasting Yearbook 1988* (Washington, D.C.: Broadcasting Publications, 1988) and *1988 Cable TV Investor*, Paul Kagan Associates (Carmel, Calif.).

13 One goal of policymakers should be to make certain that the cable market is structured to provide the maximum number of programming options for consumers. Problems with the existing industry structure which limit diversity and restrict consumer choice are discussed in the third section of this essay.

14 For example, markets for airline services are highly contestable where airport gate capacity is available. See William J. Baumol, John C. Panzar and Robert D. Willig, *Contestable Markets and the Theory of Industry Structure* (New York: Harcourt Brace Jovanovich, 1982).

15 See discussion of leased access in this essay.

16 Broadcasters are constrained from offering multiple program services by the FCC's cross-ownership rules which prohibit them from owning a cable system in their local markets and by the commission's rules which prohibit an entity from owning more than one television station in a market.

17 The rapid proliferation of VCRs (59 percent of television households have at least one VCR) and the growth of the videocassette rental business have been a major factor in the lack of growth in pay cable revenues. This suggests that VCRs do provide effective competition for the pay cable services to the extent that these services rely on recent motion pictures. This competition may help explain why pay cable revenues have remained flat or have fallen slightly since deregulation. The ratio of pay revenues to basic service revenues has changed dramatically, from .86 in 1984 to .62 in 1987. It is interesting to note that it was during this period that the videocassette/VCR market experienced rapid growth and that basic cable rates were deregulated.

However, VCRs do not provide effective competition for the local cable system itself. The cable system has the advantage of providing easy access to programs, multiple channels of programming and programming which is not available (or not attractive) for distribution by videocassette.

18 The leased access provisions of the 1984 Cable Act offer inadequate protection for national program suppliers. See discussion of leased access.

19 In implementing the 1984 Cable Act the FCC determined that a cable system is subject to effective competition and, therefore, exempted from local rate regulation if three or more broadcast television signals are available in the cable community. The commission rejected suggestions that it consider the availability of other media which might be more effectively competitive with cable.

20 J. Tobin and W. Brainard, "Pitfalls in Financial Model Building," *American Economic Review* 58 (May 1968): 99–122; J. Tobin and W. Brainard, "Asset Markets and The Cost of Capital," in *Economic Progress Private Values and Public Policies: Essays in Honor of William Fellner*, ed. B. Belassa and R. Nelson (Amsterdam: North Holland Press, 1977). For use of the *q* ratio as an indicator of market power, see E. Lindenberg and S. Ross, "Tobin's *q* Ratio and Industrial Organization," *Journal of Business* 54 (January 1982): 1–32.

21 See, for example, F. Fisher and J. McGowan, "On the Misuse of Accounting Rates of Return to Infer Monopoly Profits," *American Economic Review* 73 (March 1983): 82–97. Tobin's *q* ratio is a better indicator of cable's monopoly/monopsony power than accounting profits. It is difficult to infer the presence or absence of monopoly profits from accounting data. In the early years of a cable system an examination of accounting profits might lead one to wrongly conclude that the system, far from earning monopoly profits, was not even profitable. Looking at accounting profits in later years, without taking into consideration the earlier accounting losses, might lead to the equally erroneous conclusion that the cable system was earning outrageous monopoly profits.

22 S. Lustgarten and S. Thomadakis, "Mobility Barriers and Tobin's *q*," *Journal of Business* 60, no. 4 (1987): 535. See also M. Hirschey, "Market Structure and Market Value," *Journal of Business* 58, no. 1 (1985): 89.

23 The *q* ratio often exceeds unity in workably competitive markets. Even under workable competition firms will have some pockets of monopoly/monopsony power. For example, they may have established good customer relationships, or they may dominate a market niche. Also, firms may expect to earn transitory monopoly/monopsony profits in disequilibrium, until competitive pressures force the firms to lower prices or entry occurs.

24 M. Salinger, "Tobin's *q*, Unionization, and the Concentration-Profits Relationship," *Rand Journal of Economics* 15, no. 2 (Summer 1984): 159 (abstract).

25 "The Baby Bells vs. the Big Gorilla?," *Barron's* (August 1, 1988), 9.

26 *Report, In the Matter of Inquiry into the Scrambling of Satellite Television Signals and Access to Those Signals by Owners of Home Satellite Dish Antennas*, FCC Gen. Docket 86-366, 62 RR 2d 687 (1987).

27 A more generally accepted range for replacement cost is \$600–\$800 per subscriber.

28 Economists recognize several different interpretations of a high *q* ratio. They are (1) excessive market power, (2) workable competition with some market power, (3) disequilibrium with growing competition, (4) superior management, and (5) macroeconomic fluctuations in the *q* ratio. Comparing cable's *q* ratio to that of other nonfinancial corporations tends to rule out interpretations (2) and (5). Interpretation (3) can be ruled out because, except for VCRs which compete primarily with pay services, competition with cable has not been growing rapidly. Moreover, there is little direct competition among cable companies and very few overbuilds by new entrants. In addition, none of the alternative multichannel technologies (DBS or MMDS) have been very successful. Since the high prices being paid for cable systems have applied across the board and not just to well-managed companies, we can discard interpretation (4). This leaves the interpretation that cable has excessive market power.

29 Shooshan & Jackson, Inc., *Cable Television: The Monopoly Myth and Competitive Reality* (Washington, D.C., 1982).

30 In many cases, however, the incumbent operator has engaged in selective price cutting which may raise antitrust concerns.

31 While TCI pays around \$0.20 per subscriber to the cable carriage rights for CNN, TCI has agreed to pay \$1 per subscriber for resale of CNN to home dish owners. By agreeing to pay a substantially higher rate TCI establishes a disparity which makes its local cable service attractive and which establishes a floor for the sale of CNN to others who might want to package services for sale to home dish owners. Thus, TCI is able to secure its local monopoly and force dish owners to pay excessive rates for program services.

32 For example, Time Inc. owns both cable systems and two pay cable movie services, HBO and Cinemax. Viacom is a large cable MSO which also controls two pay cable movie services, Showtime and The Movie Channel. More than 90 percent of the cable systems owned by Time, Inc., carry HBO and 75 percent carry Cinemax. On the other hand, fewer than 60 percent of the Time, Inc., cable systems carry Showtime and only 25 percent carry The Movie Channel.

The lack of program choice led subscribers in New York to sue Manhattan Cable, a Time, Inc., subsidiary, which carries HBO and Cinemax as its only two pay-movie services. Manhattan Cable defended its practice by pointing to its limited channel capacity. However, while declining to carry competing pay-movie services, Manhattan Cable was able to find capacity to carry three home-shopping services. The lawsuit has now been settled and Manhattan Cable has agreed to add additional pay-movie services.

33 While neither the FCC nor NTIA have acknowledged that these problems warrant regulatory or legislative intervention (perhaps, in large part due to their philosophical predisposition toward "marketplace forces"), there

are ample grounds for concern. See "Home Dish Business Looking for Answers," *Broadcasting* (September 7, 1987), 98. Testimony of Chet Grochoski, vice president for corporate development, Amway Corporation, before the Subcommittee on Communications of the Committee on Commerce, Science and Transportation, U.S. Senate (July 31, 1987), 8.

34 Although an agreement has apparently been reached between a number of major program suppliers and the National Rural Telecommunications Cooperative to supply programming for resale by NRTC to home dish owners, it is not clear what prices will be charged (i.e., whether NRTC will be able to take advantage of the discounts available to cable MSOs of a comparable size). In addition, the agreement apparently limits NRTC to selling the services to dish owners outside existing cable markets. In other words, the agreement will preclude NRTC from competing directly with cable systems. Thus, consumers are denied competitive options for receiving popular programs.

35 "Uncertain Future Drawn for Broadcasting, DBS and Cable," *Communications Daily* (April 13, 1988), 4.

36 "Home Shopping Drops Plan to Launch Show Business Today Cable Network," *Wall Street Journal* (July 8, 1988), 20.

37 NTIA Report, p. 77 et seq.

38 D. Brenner and M. Price, *Cable Television and Other Nonbroadcast Media*, Clark Boardman Company (1986, 1988), 4–8.

39 The *New York Times* noted that "not one major new program service has been introduced in the past year [1987] in which cable operators have not become equity partners" (April 17, 1988), B1, 12.

40 1984 Cable Act, Sec. 601 (codified as 47 USC 521).

41 In the case of telephone company provision of cable service the FCC was also concerned about the ability of telephone companies to abuse their control over access to the pole and duct space needed by cable companies to construct their systems. Prior to 1970 there had been a pattern of abuse by both the Bell companies and independents.

However, it is important to note that circumstances have changed since the cross-ownership bar was put in place. In 1978 Congress passed legislation ensuring regulatory surveillance of pole attachment practices and establishing a favorable cost standard (based on incremental costs) for pole attachment rates. Also, because cable service is clearly an enhanced service under the FCC's "Computer Inquiry" rules, telephone company provision of cable service would be subject to all of the safeguards (structural separations, comparably efficient interconnection, open network architecture) which govern telephone company offering of enhanced services generally. Moreover, the divested RBOCs should be especially sensitive to any practice (such as denying, or discriminating in the provision of, pole and duct access) which invites an antitrust suit.

It should also be noted that much of the cable construction today does not involve use of telephone poles, ducts and conduit. Companies tend to "trench" or bury cable along public rights-of-way.

42 Congress considered, but rejected, a ban on newspaper/cable cross-ownership in the context of the 1984 Cable Act. In fact, Congress may have effectively prohibited the FCC or any other regulatory body from adopting such a prohibition in the future (see Sec. 613), thereby giving newspaper publishers a competitive advantage over all other local media.

43 The FCC rules do permit telephone companies to construct cable television plant and lease it to franchised cable operators (so-called "lease-backs"). This approach has not been widely used since cable companies generally prefer to construct, own and maintain their own facilities rather than rely on telephone companies.

44 None of these restrictions appears to prohibit the provision of the transport facilities for video services. Moreover, the BOCs can provide "gateways" for information services under the most recent decision by the U.S. District Court with jurisdiction over the MFJ.

45 Of course, cable operators may be faced with regulatory barriers to entry on the state level. In fact, while a number of cable systems are competing with telephone companies in providing data and some nonswitched voice services, there have been several instances where state regulators have intervened to block or delay competition by cable. In one case the FCC preempted state regulation which prohibited entry by a cable company's subsidiary into two-way services. See *Cox Cable Communications, Inc.*, Memorandum opinion, Declaratory Ruling and Order, File No. CCB-DFD-83-1, 58 R.R.2d 1235 (1985). However, the FCC subsequently backed away from preemption and vacated the Cox decision (citing the fact that the service had been discontinued).

State regulators are concerned about protecting the monopoly franchise for provision of telephone service and maintaining "low" telephone rates. The problems created by the mispricing of local telephone service and the nature of the telephone franchise are not the subject of this paper. Moreover, telephone companies also face significant regulatory barriers to entry into video services on the state level (i.e., cost allocation, access, rate regulation). However, this paper focuses on *federal* policy, and in that arena cable has a decided edge.

46 CFR Sec. 63.54.

47 On July 20, 1988, the FCC adopted a Notice of Inquiry which addresses many of these questions. Some commissioners have indicated their tentative support for eliminating the cable/telco cross-ownership rules.

48 *On the Cable: The Television of Abundance* (Report of the Sloan Commission on Cable Communications) (New York: McGraw-Hill, 1971).

49 U.S. Congress, House, Committee on Interstate and Foreign Commerce, Subcommittee on Communications, *Cable Television: Promise versus Regulatory Performance*, Subcommittee print, 94th Cong., 2d Sess., 1976, p. 84 and Appendix C.

This separation approach was also applied by the District Court in the MFJ when it barred AT&T from engaging in electronic publishing over its own facilities as a means for dealing with that firm's monopoly power.

50 "GAO Report to Metzenbaum Hits Cable for Rate Hikes," *Communications Daily* (October 5, 1988), 3.

51 The distortions and imbalance created by the compulsory license will be somewhat offset by the FCC's new syndicated exclusivity rules. These rules require cable operators to afford protection for syndicated programming for which local broadcasters have obtained exclusive rights. "Amendment of Parts 73 and 76 of the Commission's Rules Relating to Program Exclusivity in the Cable and Broadcast Industries," *Report and Order*, Gen. Docket No. 87-24 (July 15, 1988) ("Report and Order").

52 Of course, this is the same Justice Department which permitted the merger of the two directly competing cable companies in Phoenix, Arizona, to go unchallenged.

53 In its *Report and Order* adopting new syndicated exclusivity rules, the FCC makes several broad statements endorsing the desirability of exclusive arrangements. This type of excess in the embrace of economic theory undermines the commission's credibility. The commission fails to acknowledge that exclusivity obtained through the exercise of monopoly/monopsony power has the undesirable effect of extending cable's market power into the otherwise competitive program supply and distribution markets.

Use and Management of the Spectrum Resource

An earlier draft of this paper received comments from several participants in a conference held by the Markle Foundation in Washington, D.C., in June 1988. Dr. Michael J. Marcus and Dr. Jeffrey Krauss provided detailed comments on that early draft. Dr. Krauss' comments were exceptionally detailed, and sections of this paper are based directly upon those comments. Nevertheless, the responsibility for any errors or omissions is entirely mine.

1 The Multipoint Distribution Service (MDS) in the U.K., Australia and the United States is an example of such a line-of-sight broadcasting service.

2 *Encyclopedia Britannica*, 11th Edition, Vol. 24, p. 872.

3 Ronald Coase, "The Federal Communications Commission," *Journal of Law and Economics* 2 (1959).

4 The key decision was United States v. Zenith Radio Corp., 12 F.2d 614 (N.D. Ill., 1926). For a discussion of these legal developments, see Coase, "Federal Communications Commission," 4–6.

5 Alfred E. Kahn, *The Economics of Regulation*, vol. 1 and 2 (New York: John Wiley, 1970), 71; See also G. Stigler, *The Citizen and the State: Essays on Regulation* (Chicago: University of Chicago Press, 1975); and Paul A. Samuelson, *Economics*, 9th ed. (New York: McGraw-Hill, 1972).

6 The classic reference on transaction costs and their impact on the economy and regulation is "The Problem of Social Costs" by Ronald J. Coase, *Journal of Law and Economics* 3 (October 1960).

7 35 FCC 2d 237, 467 F 2d 1397 (1972).

8 Public Law 97-259 or 47 USC 302 (a) (2).

9 Public Law 87-795, approved October 11, 1962, 76 Stat. 903.

10 Article 17 of the Radio Regulations states: "The Administrations bind themselves to prohibit and prevent: a) the unauthorized interception of radio communications not intended for the general use of the public." See also 47 USC 705 for similar prohibitions.

11 Stations which provide radio connections between ships at sea and the domestic telephone and telegraph networks.

12 Note how hard it would be to get mariners to agree individually on the costs of monitoring function. Distress frequency monitoring is a public good of an unusual nature. It is consumed by ships that never use it. That is, frequency monitoring is like a fire department or like an insurance policy paid for by the public. Economic benefits, in the form of reduced risks, flow to all radio equipped ships in range of the station.

13 IRAC existed long before reorganizations in the executive branch created NTIA or its predecessor, the Office of Telecommunications Policy (OTP). It will probably exist after NTIA is reorganized out of existence.

14 $100 million per year is a lot, but it is small compared to the billions spent on communications electronics each year. Actually, there are other direct costs of the system. For example, frequency coordinators aid the FCC in the assignment of frequencies to specific users. The coordinators 'volunteer' their services to the FCC. Hence the cost of their labor does not show up in the FCC budget. Similarly, the Department of Defense runs a substantial frequency management program.

15 These terms are defined in the Radio Regulations, Article 1 and the FCC Rules (47 CFR 2.1).

16 Technically speaking, these channels are not "unused." Rather, their use is precluded by a desire to control interference while allowing the operation of low-cost receivers. If higher-quality receivers were used, this spectrum would become idle.

17 The Experimental Radio Service, regulated under Part 5 of the FCC Rules, is a notable (and reasonable) exception that does not require the use of authorized equipment. It is expected that licensees in the Experimental Radio Service will use experimental transmitters that are not constructed to the same rigorous standards as commercially marketed products. Nevertheless, these licensees operate under the restriction that they may not cause interference to any other licensed users.

18 Donald Dunn and Bruce Owen, "Policy Options in Mobile Radio Spectrum Management," a report prepared for the UHF Task Force of the FCC Office of Plans and Policy, September 1978.

19 In the other major broadcast services (FM, television) the FCC has unhooked the issue of regional service allocations from the licensing decision. Thus, it first allocates TV licenses to a market (e.g., Los Angeles or Sacramento) and then it invites applicants for these licenses. But, there is still the issue of comparative coverage of each of the applicants—and the FCC takes this into account when choosing licensees.

20 This is my opinion, but others disagree strongly. One of the reviewers of a draft of this paper wrote, "In most cases, the use of lotteries to award licenses has been a disastrous, chaotic failure."

21 This is not a new idea. See Ronald Coase, "The Federal Communications Commission," *Journal of Law and Economics* 2 (1959).

22 This latter effect, the loss of income to consultants and lawyers, may color the perception of some who analyze the proposed legislation. I must confess, I have mixed feelings about this side effect of auctions. There have been a few months where preparing FCC license applications kept the wolf from the door at our firm. Notice that, for many spectrum using organizations, an important source of analysis of auction proposals is their communications lawyers and consultants—the very groups that stand to lose from such reforms.

23 Both the Council of Economic Advisors and the Department of Justice strongly supported the FCC's legislation, and I understand that the Office of Management and Budget supported it as well.

24 Comments of American Telephone and Telegraph Company on Behalf of the Bell System, "Policy Options for the Spectrum Resource," undated.

25 U.S. Congress *Spectrum Auctions: FCC Proposals for the Airwaves*, Hearing before the Subcommittee on Telecommunications, Consumer Protection, and Finance, October 1, 1986, Serial No. 99-170, pp. 49–50. See also p. 53.

Communications Policy Process

1 Needless to say, the regulation of communications did not begin with broadcasting. Prior to 1934 the Interstate Commerce Commission regulated telephone and telegraph service. As early as 1865 the International Telegraph Union (now the International Telecommunication Union) was formed to encourage the development of Worldwide telecommunications through the establishment of standards and policies.

2 It might be argued, of course, that the passage of the Public Broadcasting Act of 1967 was in part a reaction against growing disenchantment with the quality and type of programming being made available by the commercial broadcasters.

3 Thirteen years later, in another effort to establish cable policy, it would be Congress that served as the midwife.

4 U.S. Department of Commerce, *1988 Industrial Outlook*, chapters 31 (Radio Communications and Detection Equipment), 32 (Telephone and Telegraph Equipment), 33 (Telecommunications Services), 47 (Household Consumer Durables—Consumer Electronics), 51 (Information Services), 63 (Advertising—Broadcasting), and 66 (Entertainment—Cable Television).

5 MCI was authorized to offer "private lines," whereby its customers could lease a circuit connecting their telephones to the MCI office in a distant city. This permitted the customer to use the private line for long distance calls to that city. In reality, because customers do not use their "private

lines" continuously, the least-cost network for MCI was to have fewer private lines than private line customers. The next logical step was simply to call the service what it was—long distance service—and sell it by the call rather than by the month.

6 In recent years the courts have reversed or remanded numerous commission decisions because the agency offered insufficient or inadequate reasoning, undertook actions that were arbitrary and capricious, or misinterpreted or misapplied the applicable law. See Century Communications v. FCC, 835 F.2d 292 (D.C. Cir. 1987) (commission did not provide sufficient record to justify reimposition of must-carry rules); Action for Children's Television v. FCC, 821 F.2d 741 (D.C. Cir. 1987) (commission failed to explain adequately elimination of guidelines for the commercialization of children's television); City of New York v. FCC, 814 F.2d 720 (D.C. Cir. 1987) (commission acted "arbitrarily and capriciously" when it preempted local technical standards for cable without enacting any standards of its own); People of the State of California v. FCC, 798 F.2d 1515 (D.C. Cir. 1986) (commission erroneously interpreted statute to authorize preemption of state regulation of intrastate radio common carrier services). While Judge Greene's decision to retain some of the line-of-business restrictions on the local Bell companies did not expressly reverse any commission actions, it did limit the effect of decisions by the agency that otherwise would have permitted those companies to offer electronic information services.

7 Cynical observers have also pointed to the growing availability of political contributions and honoraria from the burgeoning communications industry as an additional reason for this interest in communications policy.

8 "Regulatory Reform of the Telecommunications Industry," September 21, 1979, *Public Papers of the Administrations of Jimmy Carter* 1979, vol. 2 (Washington, D.C.: GPO, 1980), 1699.

9 In its *Third Computer Inquiry* (1985), the commission found that establishing a separate subsidiary imposed inefficiencies on the provision of enhanced services. The separate subsidiary requirement was replaced by a complex set of rules under which the carriers would be able to offer enhanced services directly, as long as they disaggregated the functions and capabilities of the telephone network necessary for the provision of enhanced services and made those functions available to competitors.

10 The administration recently requested a declaratory ruling from the commission that the provision of enhanced services is permitted under the Communications Act, a ruling that could force the courts to consider whether antitrust law or the Communications Act should control the scope of business activities permitted the Bell companies.

11 H.R. Ren. No. 479, 98th Cong, 2d Sess. 14 (1983), (accompanying H.R. 4102, "Universal Telephone Service Preservation Act of 1983").

12 Thomas W. Hazlett, "Wiring the Constitution for Cable," *Regulation*, no. 1 (1988): 31–33.

13 Century Federal, Inc. v. FCC, 579 F. Supp. 1553 (N.D. Cal. 1984).

14 Notwithstanding the enactment of the cable bill, a number of courts have found that certain aspects of cable franchising violate cable's rights of free speech. See, Group W Cable, Inc. v. City of Santa Cruz, 669 F. Supp. 954 (N.D. Cal. 1987); Pacific West Cable Co. v. City of Sacramento, 672 F. Supp. 1322 (E.D. Cal. 1987). Other federal courts since 1984 have refused to find similar constitutional infirmities in Detroit, St. Paul, and Erie.

15 47 U.S.C. Sec. 521(5).

16 47 U.S.C. Sec. 315(a).

17 Peter Passell, "A Phone Reform in Need of Support," *New York Times* (July 27, 1988), D2.

18 Louisiana Public Service Commission v. FCC, 476 U.S. 355 (1986). See also People of State of California v. FCC, 798 F. 2d 1515 (D.C. Cir. 1986) (overturning federal rule preempting state entry regulation of radio common carriers).

19 An appeal of the FCC's order, filed by the New York Public Service Commission, is pending in the federal courts.

20 H.R. Rep. No. 100-40, Part 2, 100th Cong., 1st Sess. 49 (1987) (accompanying H.R. 3, "Trade and International Economic Policy Reform Act of 1987").

21 Advanced Television Systems, FCC 88-288 (released September 1, 1988), para. 2.

22 Ibid., para. 115–21. In a separate statement accompanying the tentative decision Commissioner Quello criticized his colleagues' reluctance to take a more active role in setting standards: "The Commission has a responsibility to foster a climate that is conducive to the development of new competitive technologies. . . . [P]ursuit of purely ideological marketplace solutions to real world technological issues simply does not work." Separate Statement of Commissioner James H. Quello in the Matter of Advanced Television Systems (released October 12, 1988), 6.

23 Ibid, para. 82. See also Separate Statement of Commissioner James H. Quello in the Matter of Advanced Television Systems (released October 12, 1988), 6 ("The potential impact of ATV [advanced television] on the American economy has been estimated in the billions of dollars. The manufacture of ATV television sets could possibly revitalize the domestic consumer electronic industry. The implications of this technology go far beyond a 'better' picture").

24 INTELSAT went so far as to lobby Congress—unsuccessfully—to prevent the FCC from granting even an initial authorization to private satellite systems that would compete with INTELSAT's own facilities.

25 Draft International Telecommunications Regulations, FCC 88-186 (released May 24, 1988), paras. 23–25.

26 Responding to this concern, U.S. officials have sought to reassure other nations that the United States will not attempt to use the WATTC to put pressure on them to deregulate their markets. See, for example, *Communications Daily* (September 21, 1988), 3–4 (chairman of U.S. delegation to the WATTC explains to foreign governments that "[t]he United States has no intention of imposing its regulatory philosophy on any other nation");

Dennis R. Patrick, "The WATTC: Help or Hindrance," Keynote Address given before the Annenberg Washington Program Forum on October 6, 1988, page 5 ("each nation is unique and, as a sovereign state, must retain the right to regulate or not regulate telecommunications").

27 Ibid., 11–12.

28 Of course, even mere "technical standards" have significant policy ramifications. The controversy over high definition television, for instance, is often framed in terms of whether the United States will adopt standards developed by the Japanese. To do so, it is argued, could disadvantage terrestrial broadcasters in this country and would give Japanese electronics firms an insurmountable advantage over U.S. manufacturers. Likewise, Japan's insistence that all computer networks installed there comply with a standard approved by the International Telecommunication Union but not used by U.S. firms is seen by some as an unfair barrier to entry. Other observers have chastised the United States for resisting standards in use elsewhere in the world. See Frances Seghers, "Memo to U.S. Computer Makers: Standardize or Else," *Business Week* (October 3, 1988), 34.

29 Not surprisingly, this divided authority on international telecommunications matters has delayed implementation of policy. Notwithstanding general agreement among all of the agencies involved, for instance, it took almost two years to develop a new policy favoring the development of international satellite systems separate from INTELSAT.

30 Executive Order 12046 (March 27, 1978), secs. 2-401, *Public Papers of the Administration of Jimmy Carter 1978*, vol. 1 (Washington, D.C., 1979), 602.

31 See Report of Independent Counsel, In re Edwin Meese, 3 (D.C. Cir., Div. No. 87-1, July 5, 1988), 429–36 (describing correspondence between Attorney General Meese and Commerce Secretary Baldridge regarding modifications to the antitrust consent decree).

32 *NTIA Telecom 2000: Charting the Course for a New Century* (Washington, D.C., 1988), at 178–84.

Congress and Telecommunications Policymaking

Thanks are due to David Austen-Smith, John Cogan, Terry Moe, Roger Noll, and Barry Weingast for comments and criticisms of earlier versions of this chapter.

1 *Congressional Quarterly* 46/9.

2 Barry R. Weingast and Mark J. Moran, "Bureaucratic Discretion or Congressional Control? Regulatory Policy Making by the Federal Trade Commission," *Journal of Political Economy* 91:756–800. For a careful criticism of the Weingast-Moran argument, see Terry Moe, "An Assessment of the Positive Theory of Congressional Dominance," *Legislative Studies Quarterly* 12:475–520.

3 FCC Docket 78-72.

4 The traditional method of cost allocation was known as the separations process and is described in Peter Temin, *The Fall of the Bell System: A Study of Prices and Politics* (New York: Cambridge University Press, 1987).
5 S. 1660 and H.R. 3621, later embodied in H.R. 4102.
6 Joint Hearings on The Universal Telephone Service Preservation Act, Serials 98-30, 98-39, 155.
7 Ibid., 149.
8 The redistributional aspects of telephone pricing had been well known by most congressmen all along. What made it controversial in 1983 was the fact that the transfers of funds were published in agency documents and committee hearings and congressmen could henceforward be held accountable for supporting or opposing them.
9 *Congressional Quarterly Almanac*, 40 (1984): 282.
10 The theoretical argument presented here is spelled out in more detail in "Congressional Influence on Administrative Agencies: A Case Study of Telecommunications Policy," *Congress Reconsidered*, 4th ed., ed. Larry Dodd and Bruce Oppenheimer (Congressional Quarterly Press, in press).
11 This section relies mainly on accounts published in *Telecommunications Reports*.
12 *Telecommunications Reports*, June 1, 1987.
13 *Telecommunications Reports*, August 10, 1987.
14 Ibid.
15 *Telecommunications Reports* (February 22, 1988), 4.
16 The Republicans were more amenable to the proposal. Representative Rinaldo, for example, felt that although the plan would have to be examined in detail, it appeared that consumers would benefit greatly.
17 *Telecommunications Reports*, June 27, 1988.
18 There was quite a range of opinion expressed by other senators, ranging from an assertion that the current rate of return system was working fine (Hollings, D.-S.C.) to a single, outright, enthusiastic endorsement of the proposal (Stevens, R.-Alaska).

Reforming the Federal Telecommunications Policy Process

1 Staff Report on FCC (1948), 10.
2 NTIA, *Telecom 2000: Charting the Course for a New Course for a New Century*, NTIA Special Publication 88-21, U.S. Department of Commerce (October 1988), 174–75.
3 James M. Landis, Report on Regulatory Agencies to the President-Elect (1960), 53 (hereinafter cited as Landis Report).
4 Report of the President's Advisory Council on Executive Organization, 1971 (hereinafter Ash Council), 4.
5 Ibid., 5.
6 Ibid., 4. Substantially the same views are set forth in Phillip Elman, "A Modest Proposal for Radical Reform," *American Bar Association Journal*

56 (1970): 1045; and L. J. Hector, "Problems of the CAB and the Independent Regulatory Agencies," *Yale Law Journal* 69 (1960): 931: "[n]ot even with the Founding Fathers as members of its board do I think the CAB as now organized could fulfill its obligations to the American people." But see Roger Noll, *Reforming Regulation* (Brookings Institution, 1971), 31.

7 Ash Council Report, 25.

8 Ibid., 117–18.

9 Newton Minow, *Equal Time: The Private Broadcaster and the Public Interest* (New York: Atheneum, 1964), 280.

10 Ibid., 281.

11 In 1969 the Office of Telecommunications Policy (OTP) in the Executive Office of the President (EOP) was created. See NTIA, *Telecom 2000*, 175.

12 See B. W. Rein, B. L. McDonald, D. E. Adams, C. R. Frank, R. E. Nielson, "Implementation of a U.S. 'Free Entry' Initiative for Transatlantic Satellite Facilities: Problems, Pitfalls, and Possibilities," *George Washington Journal of International Law and Economics* 18 (1985): 459, 523–24. See also S. 999, 98th Cong., 1st Sess. (1983); S. 2469, 97th Cong., 2d Sess. (1982); H.R. 1957, 97th Cong., 1st Sess. (1981); and "U.S. International Telecommunications and Information Policy: Congress Considers Reorganizing Policymaking," *Law and Policy International Business* 145 (1983): 1297.

13 NTIA, *Telecom 2000*, 183–84.

14 U.S. v. Western Electric Co., 673 F. Supp. 525 (D.D.C. September 10, 1987), appeal pending, U.S. v. Western Electric Co., Case No. 89-5388 (D.C. Cir.).

15 476 U.S. 355 (1986).

16 See U.S. v. Western Electric Co. Other executive branch agencies are the General Services Administration, which procures telecommunications services and equipment for the federal government, and Agriculture, which has the Rural Electrification Administration's Telephone Program.

17 As Chairman Alan Greenspan stated:

> The conceptual contribution to economic activity reflects the explosive growth in information gathering and processing techniques, which have greatly extended our ability to substitute ideas for physical volume. These trends almost surely will continue into the next century and beyond. Telecommunications and advanced computing are destined to take on an even greater role.
>
> At the turn of this century, we created economic value by moving ore by rail from the Mesabi range down to Pittsburgh, where it was joined with coal to produce steel. Today, economic value is created by moving data, analyses and insights from one location to another through ever more sophisticated electronic means. Economic production continues to serve human needs and values. But the products serving those needs are becoming progressively impalpable.

Wall Street Journal (October 24, 1988), A12.

18 NTIA, *Telecom 2000*, 177–78.

19 FCC, *1977 Report on International Telecommunications Policies*, 57.

20 TAT-7 *Cable*, 73 FCC 2d 248 (1979).

21 General Accounting Office, "Greater Coordination and a More Effective Policy Needed for International Telecommunications Facilities," CED 78-87 (March 31, 1978), at 24.

22 FCC *1977 Report*, 55.

23 FCC, *Report and Order*, 67 FCC 2d 358 (December 21, 1977).

24 Ibid., 417, 31–32.

25 TAT-7 *Cable*, 73 FCC 2d 248 (1979).

26 *Resale and Shared Use of Common Carrier International Communications Services*, 77 FCC 2d 831 (1980).

27 Commissioner Rivera, address to ADAPSO, Palm Spring, Calif., on October 20, 1983. The PTTs object to resale and shared use of international leased lines because of effects on revenues, namely, low returns from private leased lines as compared with the much greater returns from the usage-sensitive public network. To fend off resale they threatened to discontinue private line service or to charge for such service on a usage-sensitive basis. Further, they could simply refuse to allow access to the foreign switch terminating the international line. And in support of these actions the PTTs cite the governing regulations of CCITT. CCITT regulations D1.6-12 and D6.11-13 authorize private leased lines so long as "[t]he channels so derived [are] not subleased" and recognizes the right of communication administrations to take all steps, including termination of service, necessary to assure conformity.

28 H.R. No. 96-535, 96th Cong., 2d Sess., at 48–49.

29 NTIA, *Telecom Report*, 179.

30 See, for example, *Report and Order and Supplemental Notice*, FCC 88-71, released February 25, 1988, 53 Federal Regulation 12546, petition for reconsideration pending. In its reconsideration petition NTIA essentially urged that trade considerations were not within the agency's purview. Ironically, in the past the commission was criticized for its failures in this area. Thus, in the Control Data-KDD case objections to the authorization of specialized data communication service between the U.S. and Japan were filed with the commission specifically requesting that the commission deny Japanese entry on reciprocity grounds—that is, since U.S. computer service firms were compelled to operate in Japan under severe restrictions on the use of private line service to Japan, the United States should exclude or restrict KDD proposed services in this country. State and Commerce offered to brief the commission on the reciprocity issues. The offer was ignored. The services were authorized. But see 1981 Report of the House Committee on Government Operations, 48. "Assurances of coordination and cooperation notwithstanding, the commission decided it need not consider broader information flow issues or consult with its sister agencies."

31 See R. M. Witten and T. F. Connoll, "The Louisiana PSC Decision: Where the Federal-State Balance of Power Stands," *Telematics* 3, no. 7 (July 1986):

1. See also essays by Roger Noll and Eli Noam in this volume.

32 Charles Rule, assistant attorney general, to the Brookings Institution, October 5, 1988, 21.

33 Landis Report, 66.

34 W. Cary, *Politics and the Regulatory Agencies* (New York: McGraw-Hill, 1967), 11; Phillip Elman, "A Modest Proposal for Radical Reform," *American Bar Association Journal* 56 (1970): 1047.

35 Roger Noll, *Reforming Regulation*, 42.

36 Ronald Coase, "The Economics of Broadcasting," in D. W. McAvoy, *The Crisis of the Regulatory Commissions* (New York: W. W. Norton and Company, 1970), 96.

37 Compare *Kord, Inc.*, 31 FCC 85 (1961), with *Moline Television Corp.*, 31 FCC 2d 263 (1971); L. Jaffe, "The Scandal in T.V. licensing," *Harpers Magazine*, September 1957; Bernard Schwartz, "Comparative Television and the Chancellor's Foot," *Georgetown Law Journal* 47 (1959): 655. See also Office of Communication of the Church of Christ v. FCC, 359 F.2d 994, 1009 (D.C. Cir. 1966); Office of Communication of the Church of Christ v. FCC, 425 F.2d 543, 547 (D.C. Cir. 1969); *Star Stations of Indiana, Inc.*, 3 Pike and Fischer, Rad. Reg. 2d 745, 748 (1964); *Star Stations of Indiana, Inc.*, 19 FCC 2d 991, 997 1969 (dissenting opinion).

38 NBC v. U.S., 319 U.S. 190, 219–20 (1943); FCC v. Pottsville Broadcasting Co., 309 U.S. 134, 138 (1940).

39 Henry Geller, "The Comparative Renewal Process in Television," *Virginia Law Review* 61 (1975): 471, 498; See also Fred Friendly, "Politicizing TV," *Columbia Journalism Review*, March–April 1973.

40 Henry Geller, Alan Ciamporcero, Donna Lampert, "The Cable Franchise Fee and the First Amendment," *Federal Communications Law Journal* 39 (1987): 1.

The Public Interest and Telecommunications

1 J. S. Mill, *The Principles of Political Economy*, vol. 2 (New York: P. F. Collier & Sons, 1900).

2 J. S. Mill, *Utilitarianism* and *On Liberty* (New York: P.F. Collier & Sons, 1900), 197.

3 James Fitzjames Stephen, *Liberty, Equality, Fraternity* (New York: Henry Holt, 1873).

4 Walter Lippmann, "The Administration and TV" in *Today and Tomorrow* (January 5, 1960).

5 Gustave Le Bon, *The Crowd—A Study of the Popular Mind* (London: T. Fisher Unwin, 1896); Scipio Sighele, *La Foule Criminelle—essai de psychologie collective* (Paris, 1901); Gabriel Tarde, *Les lois de l'imitation—étude sociologique* (Paris, 1895).

6 Anthony Smith, *The Shadow in the Cave—The Broadcaster, the Audience, and the State* (London: Quartet Books, 1978).

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Index

Access charge, 34, 35, 38, 39, 51–54, 61, 62, 74, 75, 287, 302, 303–308, 311, 312
Accounting rate, 95, 96, 98–101, 121
Administrative Procedure Act, 323, 325
Administrative Radio Conferences, 258
Advanced Television, 260, 271
Advisory Committee on Advanced Television, 260
Alaska, 104
All Channel Receiver Act (1962), 255
American Public Radio (APR), 199, 204
American Telephone & Telegraph (AT&T), 11–16, 19, 24, 27–33, 36, 38, 42, 43, 45, 47, 49, 50, 52, 53, 55, 56, 59–61, 64, 67, 69, 73, 81, 86, 92–98, 100–102, 104, 105, 107, 108, 109–111, 114, 118, 121, 122, 196, 244, 269, 270, 275, 278, 279, 282–286, 292, 294, 296, 298, 303, 304, 306, 310, 319, 321, 327, 349, 352
American Television & Communications (ATC), 226, 233, 234
Antitrust regulation, 12–19, 21, 28–31, 36, 39, 45, 46, 67, 75, 147, 149, 238, 277, 281–286, 294, 295, 298, 299, 319–321, 327
Arts and Entertainment Network (A&E), 212, 228
Ash Council, 316, 317
AT&T Long Lines, 15, 67
Auction, spectrum, 125, 141, 142, 145, 187, 267–270. *See also* Spectrum

Basic service, 21, 22, 24, 34, 35, 41, 43, 44, 69, 81, 82, 86, 223, 338; local, 16, 22, 34, 39, 43, 47
Basic Service Element (BSE), 44, 81–85, 90
Basic Serving Arrangement (BSA), 81
Baxter, William, 16
Bell Communications Research (Bellcore), 311
Bell Operating Companies (BOCs), 16, 17, 29, 31, 33, 38, 39, 41–47, 52, 54–57, 59–61, 67, 79, 81, 84, 86, 88, 89, 118, 119, 240, 294, 319, 326, 327
Bell Telephone Laboratories, 13, 15
Bentham, Jeremy, 342, 355
Blue Book, 130, 351
Bollinger, Lee, 175–177
Bork, Robert, 137
Brandeis, Louis, 76
Brazil, 95, 99
Brennan, William, 183
British Broadcasting Company, 349
British Broadcasting Corporation

(BBC), 197, 349, 350, 354
British Post Office, 353
British Telecom, 37, 353
Broadband Integrated Services Digital Network (B-ISDN), 215
Broadcasting, 17, 59, 125, 126, 128, 129, 135, 136, 138, 140, 143, 144–147, 149, 150, 155, 156, 158, 160, 163, 164, 165, 167–175, 177–179, 181, 182, 184–189, 191, 192, 193–201, 205–210, 213–223, 225, 230, 233, 245, 248, 249–253, 259, 260, 263, 264, 266, 269, 270, 275, 276, 277, 283, 291, 317, 329, 340, 344, 345, 347, 349–352, 354, 357
Brookings Institution, 327
Bryant, John, 309
Burch, Dean, 130
Bureau of International Communications and Information Policy (CIP), 321
Bureau of Labor Statistics, 53
Burger, Warren, 76, 160
Bypass system, 33

C/SPAN, 228, 237
Cable and Wireless, 118
Cable Communications Policy Act, 166, 184, 191, 223–225, 228, 229, 240–243, 245, 289, 290
Cable franchise, 212, 234, 242, 243, 245, 266, 289
Cable News Network (CNN), 228
Cable television, 17, 27, 42, 71, 74, 91, 126, 142, 145–147, 149, 156, 165, 166, 179, 182, 184, 187, 189, 190, 191, 210, 211, 218, 222, 223, 225, 226, 228, 229–231, 234, 239–241, 243, 246, 253, 260, 261, 276, 278, 329
California, 79, 111, 160, 226
Canada, 104, 107, 219
Capitalism, 347, 356
Carnegie Commission, 195, 197, 213, 214, 216, 218
Carnegie Corporation, 197
Carter administration, 268
Carterfone, 67, 73
Cary, William L., 77
CBS v. *FCC* (Carter-Mondale case), 137, 145
Centel Communications, 227
Centrex, 31
Channel Tunnel, 346
Children: and content of programming, 131, 132, 139, 146, 151, 164, 165, 167, 188, 195, 201, 206, 217, 275, 351; programs for, 131, 132, 139, 188, 195, 201, 206, 217, 275; and regulation of programming, 184, 185, 187, 347
Children's Television Workshop (CTW), 12, 17, 57, 74, 206
CBN Family Channel, 228
Citizen Band transmitter (CB), 262
Civil Aeronautics Board, 47
Coase, Ronald, 138, 250, 328
Cohen v. *California*, 160
Commerce, Department of, 56, 58, 320; assistant secretary for communications and information, 320
Commission on Organization of the Executive of the Government (Hoover Commission), 316
Committee for Economic Development, 244
Common carrier, 47, 48, 51, 55–64, 66, 71, 74, 86, 113, 128, 158, 166, 177, 179, 189, 190, 253, 258, 260, 261, 269, 278, 319, 329, 352, 356
Communications Act of 1934, 14, 17–19, 73, 74, 77, 125, 128, 130, 151, 158, 161, 162, 164, 193, 194, 196, 250, 255, 256, 258, 275, 279, 281–286, 290, 291, 293, 294, 311, 321, 323, 351
Communications Policy Board, 316
Community antenna television (CATV), 222, 223
Community Service Grants (CSG), 199

Comparably Equal Interconnection (CEI), 68
Comparative Hearing Policy Statement, 129
Comparative renewal, 128, 132, 133, 139, 142–144
Competition, 12, 14–17, 19, 23, 24, 27–37, 41, 42, 46–49, 53, 57, 60, 61, 64, 68, 69, 73, 78, 80, 81, 84, 86, 87, 89, 92, 93, 95, 98–102, 111, 112, 114, 118, 119, 121, 122, 126–128, 135, 136, 148–150, 166, 190, 212, 216, 225, 226, 228–236, 239–241, 243–246, 278, 279, 280, 282–284, 286, 288, 292–294, 296, 297, 302, 321, 324, 326, 333, 339, 348, 349, 351, 353, 354, 356
Competitive Carrier Rulemaking (FCC), 285
Computer and Business Equipment Manufacturers Association, 325
Computer *Inquiry* rules (FCC), 67, 242, 264, 285, 294
Comsat, 103, 105, 107–116, 122, 127
Congress, U.S., 18, 19, 30, 38, 48, 73, 77, 78, 103, 128, 133, 134, 138, 141, 142, 144, 145, 149, 150, 152, 154, 168, 169, 176, 186, 191, 196, 199, 211, 215, 218, 223, 225, 239, 240, 242, 243, 245, 246, 250, 254, 255, 258, 266, 270, 275–279, 281–292, 294, 295, 297, 299, 301–304, 306, 308–314, 317–320, 326, 328, 331, 333; Commerce Committee, 284, 301, 305; Committee on Government Operations, 324; Communications Subcommittee, 244, 282; Judiciary Committee, 284; Telecommunications and Finance Subcommittee, 224, 310
Constitution, U.S., 74, 130, 166, 174, 356. *See also* First Amendment
Consumer Communications Reform Act, 19, 282–284
Copyright Law of 1976, 148, 357
Corporation for Public Broadcasting (CPB), 196, 199, 200, 206, 208, 214, 215
Corporation for Public Television (CPT), 195, 196
Cost reductions, 22, 36, 37, 41, 47, 62
Council of Economic Advisors, 114
Court of Appeals, U.S., 68, 137, 147, 148, 170, 211, 319
Cox Cable, 74, 226
Cross-subsidy, 48, 84, 308. *See also* Subsidy
Customer premises equipment (CPE), 12, 17, 57, 59, 74
Customer Proprietary Network Information (CPNI), 86
Customers, 11–13, 20–22, 27, 29, 31, 33–35, 37–39, 42, 46, 55, 56, 57, 59, 64, 70, 78, 83, 86, 87, 95, 96, 107, 108, 109, 120, 166, 243, 285–287, 292, 293, 302, 303, 309, 311, 312; residential, 20–22, 25, 26, 33–35, 39, 42, 49–51, 53–55, 57, 59, 62, 64, 73, 78, 87, 90, 93, 96, 288, 304; small-business, 22, 39, 42

Datran, 14
Decentralization, 12, 68, 75, 76, 197, 200, 213, 300
Defense, Department of, 30, 268, 298, 321
Del Ray Group, 147
Demand, 11, 13, 21–23, 25, 38, 39, 41, 52, 55, 62, 68–71, 83, 84, 86, 87, 96, 101, 104, 105, 113, 120, 121, 169, 172, 173, 174, 215, 217, 345; elastic, 22, 23, 39; inelastic, 21, 22, 25, 39, 55
Deregulation, 11, 17, 19, 35, 42, 47, 48, 56, 63, 69, 75, 77, 78, 79, 80, 91–93, 115, 131, 140, 142, 152, 223, 224, 225, 233, 280, 284, 289,

319, 334, 338–340, 347–349
Dingell, John, 304, 308, 309, 311
Direct broadcast satellite (DBS), 127, 140, 147, 234, 236, 249
Direct distance dialing, 94
Diversity, industrial, 68, 72, 76, 77, 89, 91, 116, 133, 135, 136, 158, 176, 177, 178, 197, 198, 200, 226, 238–240, 247, 248, 267, 280, 281, 291, 297, 298, 339, 356
Divestiture, 11, 16, 18, 19, 29–34, 36, 46, 52, 53, 56, 57, 59, 60, 64, 86, 118, 279, 285, 287, 294, 303, 321

Eastern Educational Network (EEN), 199
Education, Department of, 208, 216
Educational Television and Radio Center (ETR), 195
Eisenhower administration, 30, 178
End-user access charge, 74, 75, 302
Enhanced service provider (ESP), 66–68, 72, 80, 81, 83, 85, 296
Equipment, 12–17, 24, 27, 30–32, 34, 43–47, 49–51, 55–61, 64, 66, 67, 73, 74, 78, 82, 90, 100, 208, 245, 247, 250, 253–256, 259–263, 276, 280, 282, 283, 285, 288, 292–294, 296, 297, 302, 325, 337, 347, 353, 355, 358; manufacturing, 285; terminal, 49, 50, 55, 60, 73, 78, 302, 353
ESPN sports channel, 228
European Economic Community (EEC), 343–345, 347
Europlug, 343
Execunet, 27, 28, 33

Facsimile transmission, 95, 353
Fairness doctrine, 133, 136–138, 142, 155, 162, 163, 167–169, 175, 177, 179, 185, 188, 251, 252, 275, 290, 291, 292
Fairness Report (1985), 169
FCC *v. League of Women Voters*, 136, 168, 169
FCC *v. Pacific Broadcasting Co.*, 146, 164, 168, 182, 183
Federal Aviation Administration (FAA), 268
Federal Communications Commission (FCC), 12, 14–19, 24, 25, 27–31, 33, 35, 37–39, 41–48, 50–53, 55, 56, 67, 68, 71, 72–82, 84–86, 89–92, 96, 99, 100, 102, 104, 105, 107–111, 113–115, 118, 121, 122, 126–141, 143, 144, 145–148, 150, 152–155, 161–172, 175, 177–179, 182, 185, 186, 191, 194, 211, 223, 224, 226, 232, 235, 236, 238–243, 246, 250, 252–263, 265, 266–269, 275–279, 281–283, 286–288, 290–295, 298, 299, 301–306, 308–317, 319–329, 332, 333, 339, 342, 349, 350, 354; Common Carrier Bureau, 47, 48, 113; Field Operations Bureau, 262; Network Study, 134, 146
Federal Energy and Regulatory Commission (FERC), 331
Federal Radio Commission, 250, 350
Federal Telecommunications Agency, 315, 331
Federalism, 12, 18, 45, 48, 67, 75–77, 84, 91
First Amendment, 75, 133, 135, 136, 140, 142, 143, 147, 148, 155, 156, 158–161, 166, 168–177, 179–186, 188–191, 223, 226, 243, 251, 350, 351
Ford administration, 156
Ford Foundation, 195, 218
Fowler, Mark, 139, 267
Fox Television, 126
Fragmentation, network, 49, 50, 75, 280, 300
France, 98, 104, 341, 343, 352
Free market, 12, 18, 177, 338, 348, 355, 356, 358

Free speech, 156–158, 160, 174, 186, 223, 243, 289, 350

Garcia v. San Antonio Metropolitan Transit Authority, 79
General Telephone and Equipment (GTE), 13
Goldwater, Barry, 221
Government Accounting Office (GAO), 187
Granger movement, 20
Greene, Harold, 16, 18, 68, 303
Gross National Product (GNP), 56
Guam, 104

Herfindahl-Hirschman Index, 236
High-definition television (HDTV), 127, 129, 146, 147, 216, 260, 271
Hollings, Ernest, 301
Home Box Office (HBO), 210, 227
Home dish, 234, 245
Hong Kong, 104
Hoover, Herbert, 316, 350
Houston, University of, 194
Houston Independent School District, 194

Illinois Citizens Committee for Broadcasting (ICCB), 253
Indecency, 146, 164, 166, 182, 185, 252, 257
Independent station, 126, 146, 148
Individual autonomy, 338, 355
Individualism, 335, 356
Information services, 15, 16, 43, 46, 47, 61, 80, 240
Information technology, 334, 338, 339
Inouye, Daniel, 311
Integrated broadband network, 66, 83, 91, 241, 243
Integrated Services Digital Network (ISDN), 47, 66, 83, 215
INTELSAT, 93, 102–107, 109–117, 119–122, 322, 323
Interconnection of networks, 50, 66–68, 71, 79–83, 86, 88, 90, 91, 195, 196, 197, 199, 208, 214, 215, 221, 258, 293, 303, 326, 344, 345, 356, 357
Interdepartmental Radio Advisory Committee (IRAC), 258
Interexchange carrier, 27, 32, 52, 57, 59, 61, 62, 81
Interexchange service, 49, 51, 53, 57, 60–62, 118
International Digital Communications, 119
International Frequency Registration Board (IFRB), 258
International Radio Regulations, 258
International Telecommunication Union (ITU), 257, 258, 296, 346
International Telephone and Telegraph (ITT), 13, 94
Intersputnik, 103
Interstate commerce, 72, 74
Interstate Commerce Commission (ICC), 72
Interstate services, 17, 18, 27, 42, 50, 61
Investment, 21–23, 36, 38, 58, 59, 101–103, 109, 110, 116, 117, 147, 229, 256, 257, 346, 349, 356
ITT Worldcom, 94

Jacksonville, Florida, 178
Japan, 98, 99, 104, 147, 219
Johnson administration, 351
Joint Board negotiation (FCC and states), 75, 77, 89, 298
Jurisdiction over telecommunications, 17, 18, 27, 31, 43, 45, 48, 50, 68, 71, 73, 77, 79, 89, 282, 292, 293, 297, 313, 346, 350
Justice, Department of (DOJ), 12, 14–16, 18, 19, 30, 31, 36, 38, 45, 48, 67, 68, 236, 239, 246, 277, 285, 298, 303, 321, 339, 349

Kerry, John, 309, 311
KIBE-AM, 140
Kingsbury Commitment (1913), 67
Korea, 104
Kovitz, Roselle, 221
Krattenmaker, Thomas, 172

Lamar Life Broadcasting Co., 138
Landis, Dean, 333
Landis Report, 316
Lautenberg, Frank, 304–306
Le Bon, Gustave, 341
Leland, Mickey, 92, 310
Less developed countries (LDC), 92, 102, 103, 112, 116, 117, 122
License renewal, 188, 291
Line-of-business restrictions, 16, 43, 45, 46, 61, 121, 299
Local Access and Transport Area (LATA), 31, 32, 329
Local exchange, 28, 31, 34, 39, 44, 46, 51, 59–61, 68, 71, 80, 81, 85, 89, 293, 310, 326; competition in, 46
Local exchange companies (LECs), 51, 59, 61, 71, 80–82, 85, 90, 310, 326
Local service, 12, 14–17, 22, 27–29, 31, 33–35, 39, 42, 43, 45, 47, 52–54, 56, 57, 78, 82, 304
Locke, John, 355
Long-distance service, 12, 14–18, 24, 29–34, 42, 43, 46, 49, 50, 51–53, 55, 56, 58, 61, 62, 69, 78, 81, 86, 119, 245, 248, 250, 276, 279, 280, 282, 283, 285–287, 292, 293, 298, 302–305, 308
Low-power television (LPTV), 127, 145, 150, 262
Luddism, 342

Magnuson, Warren, 221
Malaysia, 111
Mann-Elkins Act, 72
Maritime communications, 250
Market(s), 12, 16, 36–39, 42, 44–47, 51, 55, 73, 75, 77, 86, 87, 93, 94, 95, 114, 126, 135, 136, 141, 143, 145, 147, 148, 149, 156, 170–172, 186, 205, 223, 225, 226, 239, 240, 248, 251, 261, 267, 269, 270, 278, 280, 288, 289, 302, 319, 325, 334, 337, 338, 340, 342, 343, 345, 346, 348, 349, 353–356, 358; broadcast vs. print, 174–177; cable television, 228–36, 240; competitive, 29, 31, 32–34, 55, 61, 92, 127, 165, 174, 212, 241, 244–245, 282–286, 292, 293, 294, 296, 297; and costs, 37; domestic, 92, 112–113, 119; foreign/international, 92, 93–107, 111–112, 117–121, 296, 325; free, 18, 177, 338, 354–355; local service, 45, 240, 246; and pricing, 36, 38, 39, 84, 111–114, 302; retail, 93–102; structure, 93–95, 111–112; telephone, 51, 57, 60, 65, 240; wholesale, 93, 102–115, 117
Market Link, 104, 118, 120, 121
Markey, Edward, 309, 310
Mass media, 90, 91, 133, 135, 136, 268, 276, 277, 279, 315, 319, 330, 331
Maximum feasible competition, 36
Meese, Edwin, 16
Mercury Communications, 118
Message toll service (MTS), 53, 54, 57; interstate, 57
Miami, 160, 178
Miami Herald Publishing Co. v. Tornillo, 160, 190
Microwave Communications Inc. (MCI), 14, 27, 32, 51, 52, 57, 68, 69, 94, 95, 279, 282, 283
Microwave Communications Inc. International (MCII), 93, 94, 99, 114
Microwave transmitting, 51, 68, 93, 149, 196, 207, 215, 222, 246, 249, 252, 253, 260–265, 269, 278
Mill, John Stuart, 338, 355

Minneapolis Star and Tribune Co. v. Minnesota Commissioner of Revenue, 159
Minow, Newton, 317
Mobile radio frequency, 260
Modified Final Judgment (MFJ), 15, 16, 19, 31, 43, 83, 118, 119, 240, 242, 321
Monopoly, 12–17, 19, 20, 24, 26, 28–32, 36–38, 40, 42, 43, 45, 46, 47, 49, 64–66, 69, 84, 92, 93, 98, 99, 102, 103, 114, 115, 117, 119–121, 149, 158, 166, 174, 177, 190, 228–237, 244–246, 250–252, 269, 276, 277, 282, 283, 284, 297, 324, 326, 338, 342, 349, 350, 352, 353, 356; integrated, 16, 36; natural, 14, 15, 20, 65, 190. See *also* Regulated monopoly
Monopsony, 229–233, 235–237, 244, 246
Mueller, Milton, 87
Multichannel microwave distribution services (MMDS), 149, 233, 234, 236, 245
Multiple system operator (MSO), 222, 226, 227, 233–236, 237, 238, 239, 244
MUSE system, 147
Must-carry rule, 146–148, 211, 212, 224, 226, 229, 240, 245, 290, 291

NARUC II (*National Association of Regulatory Utilities Commissioners v. FCC*, 1976), 75
National Academy of Engineering (NAE), 270
National Association of Broadcasters (NAB), 147
National Association of Educational Broadcasters (NAEB), 195
National Association of Public Television Stations (NAPTS), 199
National Defense Education Act (1958), 221
National Educational Television (NET), 88, 95, 96, 99–101, 146, 175, 195, 213
National Endowment for the Arts, 208
National Endowment for the Humanities, 208
National Federation of Community Broadcasters, 199
National Program Production and Acquisition Grants, 199
National Public Radio (NPR), 197–199, 204, 218
National Science Foundation, 208, 215
National security, 281, 299, 321, 325, 327, 330, 332
National Telecommunications and Information Administration (NTIA), 15, 16, 208, 258, 268, 298, 299, 318–320, 322, 325
NBC, 126, 136, 233, 237
Near v. Minnesota, 159
Networks, 12–15, 17, 18, 23, 29, 33–35, 41, 43–47, 49–51, 53, 55, 57–64, 66–71, 73, 74, 79–88, 90, 91, 101, 103, 117, 118–122, 126, 127, 131, 134, 135, 137, 143, 145, 146, 149, 151, 165, 178, 193, 196, 197, 199, 202, 210–212, 215, 216, 225, 228, 229, 233, 235, 237, 241–243, 245, 255, 275–279, 284–286, 292–294, 296, 298, 299, 302, 319, 330, 339, 345, 346, 351, 353, 356, 358
New York Institute of Technology, 147
NHK (Japan Broadcast Corporation), 147
Nickelodeon, 228
Nixon administration, 178, 299, 330
North American Phillips, 147
North Carolina Utilities Commission v. FCC, 73
North Pacific Cable, 104, 119
NTIA *Telecom 2000* Report, 318, 325
NYNEX, 118

Obscenity, 159, 164, 166, 257
Office of Management and Budget (OMB), 311
Office of Telecommunications Policy, 276, 277, 320
Open entry, 20, 118, 128, 135, 150, 326, 327
Open network architecture (ONA), 15, 43–48, 67, 68, 79–91, 298, 319
Other common carriers (OCCs), 51, 52, 57, 63, 64, 81

Pacific Telesis, 119
Packwood, Robert, 172, 304, 306
Pan American satellite, 111, 113, 117–120
Park, Robert E., 179, 340
Pastore, John, 221
Patent, 29, 30, 67
Patrick, Dennis, 267, 308–312
Penthouse, 183
Personal attack rules, 162, 167, 188, 252
Peru, 117
Plain Old Telephone Service (POTS), 49
Planned Domestic Service (PDS), 113
Playboy, 184
Pluralism, 66, 67, 69, 70, 72, 90, 91, 135, 345
Policy process, 67, 275, 279–281, 288, 292, 297–300, 313, 315, 316, 318, 329
Political editorial rule, 163
Pricing, 19–27, 31, 32, 34–36, 38–42, 44, 47, 50, 51, 61, 62, 81, 82–85, 111–114, 116, 117, 120, 122, 149, 233, 288, 302, 303, 326, 349, 354; optimal, 25, 26, 39; Ramsey, 24, 25, 39, 40; residual, 20–22, 34, 41, 44
Prior restraint, 159
Privatization, 188, 191, 345, 353
Producer Price Index, 53
Programming Statement, 130
PTAT-1, 104, 118, 119
PTAT-2, 104
PTT (Post, telephone, and telegraph administration), 92, 93, 95, 98, 99, 101, 103, 107, 111, 117, 119–121, 318, 324, 349, 352
Public broadcasting, 145, 187, 192, 193, 195–201, 205–210, 213, 214–221
Public Broadcasting Act of 1967, 192, 196, 209, 213, 216–219
Public Broadcasting Financing Act of 1967, 196
Public Broadcasting Service (PBS), 197–199, 206, 213, 215, 351; Adult Learning Service, 206
Public forum, 180–182, 311
Public interest, 128, 129, 132, 133, 138, 139, 145, 146, 152, 156, 158, 161, 168, 219, 250, 270, 277, 282–284, 286, 288, 291, 308, 323, 326, 327, 329, 330, 334–348, 350–358
Public service, 125, 128–131, 138–140, 142–145, 320, 337, 351, 354
Public trustee concept, 125, 128, 133, 136, 137, 144, 145, 150
Public Utility Commission (PUC), 294

Q ratio, 231, 232
Quarantine theory, 31

Radar, 249, 256
Radio Act (1927), 170, 350, 351
Radio communications, 28, 31, 33, 42, 47, 59, 74, 125–129, 131, 134, 140–144, 150–152, 155, 156, 162, 164, 167, 168, 170–173, 178, 179, 181–184, 186–188, 191, 193, 194–199, 203–205, 207–209, 218–220, 247–254, 256–262, 264–268, 270, 271, 278, 317, 329, 339, 340, 346, 347,

349–353, 356; AM, 125, 126, 134, 140, 143, 146, 150, 152, 155, 247, 248, 250, 266; cellular, 28, 31, 33, 74, 81, 266–268, 288; FM, 74, 125, 126, 134, 142, 150, 152, 194, 247, 251, 259; noncommercial, 141
Radio Regulations, 256–258
Rate distortions, 50, 51, 63, 64, 233
RCA Global Communications, 94
Reagan administration, 18, 75, 286, 287, 299, 310, 312
Red Lion Broadcasting Co. v. FCC, 136, 137, 167, 169, 172, 179
Regional Bell Operating Companies (RBOCs). See Bell Operating Companies
Regulated firm, 20, 22–27, 40, 51, 107, 113
Regulated monopoly, 12–14, 16, 17, 28, 31, 37, 45, 46, 356. See *also* Monopoly
Regulation, 11–13, 15–23, 25–28, 30, 31, 33, 36–42, 44–49, 51, 56, 60, 61, 63, 65–67, 69, 71–79, 82–84, 92, 98, 100, 101, 102, 107–111, 121, 122, 125, 130, 134, 135, 137–140, 149, 155, 156, 160, 161, 163, 167, 170, 171, 175–177, 179, 180, 184, 188, 190, 223, 224, 225, 233–235, 239, 248, 250–255, 257, 263, 265, 270, 276, 283, 285, 287, 290, 292–294, 296, 298, 301, 302, 308, 309, 311, 317, 322, 323, 327, 329, 331, 336, 337, 339, 340, 342, 345, 349, 351, 354, 355; economic, 12, 15, 18, 20, 21, 38, 39, 41, 47, 223, 225; federal, 15, 18, 72, 75; incentive, 36, 37; price, 13, 22, 23, 27, 30, 31, 36, 38, 40, 45, 47; price cap, 11, 36–43, 47, 48, 56, 64, 108, 110, 111, 122, 287, 291, 302, 308–312; rate cap, 56, 61, 77; rate-of-return, 26, 28, 31, 36, 37, 41, 42, 51, 61, 77, 84, 98, 100–102, 107–111, 115, 121, 122, 232, 287, 293, 302, 308, 309; social contract, 36, 39–41, 293; state, 15, 17, 45, 46, 48, 72–74, 83, 292, 294, 355
Report on International Telecommunications Policies (1977), 322
Robinson, Glen A., 138
Rule, Charles, 327
Rural Electrification Administration (REA), 13

Satellite carriers: domestic, 126, 253, 256, 277; international, 71, 103, 105, 111, 322
Satellite Educational Resource Consortium (SERC), 207
Satellite Master Antenna Television (SMATV), 74, 156, 233, 234
Shared Tenant Service (STS), 33, 34
Sloan Commission on Cable Communications (1971), 244
Socialism, 342, 347, 354
Spain, 97, 104
Spectrum, 79, 88, 125, 127–129, 140–143, 147, 155, 156, 165, 167, 168, 170–174, 178, 179, 181, 182, 184–188, 191, 194, 218, 219, 222, 247–251, 253, 256–265, 267, 268–271, 275, 319, 332, 342, 344, 346, 348, 349, 350, 354, 356; auction, 125, 141, 142, 145, 187, 267–270; usage fee, 125, 140, 141, 143
Spectrum management, 247, 250, 258–263, 268–270; allocation, 58, 61, 84, 112, 128, 129, 168, 256, 259, 263, 264, 265, 268, 275, 280, 340; allotment, 259; assignment, 151, 193, 259, 268
Stevens, John Paul, 145, 182, 183
Subscriber line charges (SLC), 53, 288, 311
Subsidy, 13, 34, 35, 45, 48, 52, 54, 56, 61, 64, 78, 84, 88, 91, 116, 189, 278, 287, 303, 305, 314, 326. See *also* Cross-subsidy
Supreme Court, U.S., 40, 74, 79,

129, 133, 137, 155, 156, 159, 160, 164, 167–169, 179, 180, 182, 185, 186, 190, 191, 211, 224
Sweden, 347
Swift, Al, 301
Syndication, 134, 146, 276; domestic, 134; foreign, 134
Syracuse Peace Council, 155, 170, 185

Taiwan, 78, 104
Tarde, Gabriel, 341
Task Force on Communications Policy (Rostow Commission), 277, 318, 331
TAT-7, 104, 322, 323
TAT-8, 104, 107, 120, 121
TAT-9, 104, 121
Tauzin, W. J., 309
Technical standards, 66, 85, 259, 264, 295, 296, 349
Technological scarcity, 169, 171
Tele-Communications Inc. (TCI), 226, 233–235, 237
Teleglobe, 107
Telephone, 11–17, 20, 25, 27–30, 32–35, 39, 41, 43–45, 47, 49, 50, 52, 53, 56–60, 62, 64, 65, 67, 73, 78, 81, 83, 85, 86, 88, 90–96, 100, 103, 105, 121, 189–191, 207, 216, 225–227, 239–243, 256, 258, 269, 275–280, 282–288, 292–294, 296, 302, 303, 309, 314, 321, 326, 337, 349, 353; radio, 256
Television, 17, 27, 42, 51, 71, 74, 91, 103, 111, 126–129, 131, 132, 134–136, 139–142, 145–147, 149, 151, 152, 154, 155, 156, 162, 165–169, 172, 177–179, 182–184, 187–191, 194–196, 198, 199, 201–204, 206, 207, 208–216, 218–220, 222, 223, 225, 226, 228–231, 233, 234, 236, 237, 239–241, 243, 246–248, 251–262, 264, 265, 267, 271, 275–278, 295, 317, 329, 339–342, 344, 346, 347, 350–353, 356; UHF, 126–129, 143, 147, 148, 150, 151, 168, 194, 211, 212, 248, 251, 255, 259, 260, 264, 265, 271; VHF, 125–129, 134, 143, 150, 172, 178, 211, 248, 255, 260, 264
Television Deregulation, 131
Television Receive Only (TVRO), 127, 149, 234, 245
Time, Inc., 227
TRAC v. FCC, 170
Trade: policy, 92, 321; and telecommunications policy, 299, 325–26, 327, 330, 332
Trade Representative, U.S., 294, 298, 321
Turner Broadcasting System (TBS), 233, 234

United Kingdom, 71, 98, 99, 104, 107, 111, 117, 118, 120, 145; Parliament, 346, 350
United Nations, 257
United States Congress. See Congress, U.S.
United States Court of Appeals. See Court of Appeals, U.S.
United States government. See Commerce, Department of; Defense, Department of; Education, Department of; Justice, Department of; Office of Management and Budget
United States International Service Carriers (USISC), 105
United States Supreme Court. See Supreme Court, U.S.
United States Trade Representative. See Trade Representative, U.S.
Universal service, 20, 22, 24, 26, 54, 64, 84, 87, 88, 303, 337
Universal Service Fund, 303
US Sprint, 32, 93, 94
USA Network, 228

Vail, Theodore, 87
Van Deerlin, Lionel, 282
Vertical integration, 16, 30, 117, 149, 225, 236, 238
Viacom, 227
Videocassette recorder (VCR), 126, 136, 147, 207, 210, 215, 216, 229, 232, 262

Wagner-Hatfield amendment (to Communications Act of 1934), 193, 194, 218
Washington Post, 178, 330
Washington Post Company, 178
Washington, D.C., 140, 178, 192
Watergate, 330
WATS (Wide Area Telephone Service), 57, 74
West Germany, 96, 98, 117
Western Electric, 15, 30
Western Union Telegraph, 29, 58, 94, 275
White House, 114, 214, 223, 276–278, 299
Wirth, Tim, 304
Wisconsin, University of, 193
Witherspoon, John, 221
World Administrative Telephone and Telegraph Conference (WATTC), 296
Worldplug, 343

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